

# GLOBAL INDOOR HEALTH NETWORK

WORKING TOGETHER FOR HEALTHY INDOOR ENVIRONMENTS  
IN OUR HOMES, SCHOOLS AND BUSINESSES



Special Edition

## Remembering Dr. Jack Thrasher

February 17, 2017

This special edition of the GIHN newsletter is dedicated to Dr. Jack Dwayne Thrasher.

With much sadness, we are sorry to tell you that Dr. Jack Thrasher passed away on Friday, January 27, 2017. The world has lost a great friend, colleague and researcher. Dr. Thrasher worked tirelessly throughout his life to advance the science in the field of toxicology. He freely shared his knowledge and expertise with everyone. His courage, determination and willingness to speak out will be remembered by all, and his work will live on.

Dr. Jack Dwayne Thrasher received a Bachelor's of Science degree in 1959 from California State University, Long Beach, and a Ph.D. from the University of California, Los Angeles (UCLA), School of Medicine, Department of Anatomy in 1964. He taught medical students at both the University of Colorado and UCLA in cell biology, human anatomy, physiology and embryology.

Dr. Thrasher had specialized in Toxicology since 1966 and Immunotoxicology since 1986. He had been a consultant to toxicology laboratories and three human diagnostic laboratories. He had been an expert witness in government, defense and plaintiff cases.

He published dozens of peer-reviewed research papers on the toxic effects of various chemicals, bacteria, molds and mycotoxins on animals and humans. He gave numerous presentations and served on many committees, editorial boards and advisory panels. He was a well-known expert in his field and was quoted in numerous articles throughout his career.

Over the past several months, he was continuing to write new research papers with colleagues and was serving on the Organizing Committee for an international [conference](#) on "Mycotoxins and Toxigenic Fungi" to be held in Amsterdam, The Netherlands, at the end of this month (February 27-28, 2017). One of his colleagues, Dr. Irene Grant, will be attending the conference and presenting the research that she and Dr. Thrasher completed. She will be dedicating her presentation to Dr. Thrasher.



Dr. Jack Dwayne Thrasher

Dr. Thrasher was a member of the Board for the Global Indoor Health Network. He freely gave of his time and expertise. We will miss his wise counsel and his tireless dedication to advancing the science and educating others.

Several of Dr. Thrasher's research papers are highlighted in this newsletter. You can see a complete listing of his research papers and professional achievements on his Curriculum Vitae (CV). His CV and research papers are posted on his website.

Dr. Thrasher is survived by his loving partner, Sandra Crawley; his two daughters, Kristen (and David) Tieman and Traci Thrasher; his beautiful granddaughter, Avery; and friends and colleagues around the world.

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## Thoughts from Dr. Janette Hope

We have lost a great teacher and a very kind man.

Jack reached out to me shortly after I started my environmental medicine practice in 2008 and from that day forward, my email inbox has never quite been the same. In this case, though, it was very good thing.

He has sent countless peer-reviewed articles, at times on topics I had discussed with him and other times material he was researching that he (quite correctly) assumed would be of interest to those of us in the trenches treating people made ill from exposure to water damaged conditions and mold and as well as to anyone who expressed interest in learning more about the effects of the indoor environment on health.

He was relentless in his efforts to educate and find treatment for those who contacted him. He consistently gave generously of his time and knowledge.

It was common for me to receive a call from Jack expressing great concern about serious health problems experienced by people he spoke with.

Anyone who knew him knew he cared deeply about the people who reached out to him for help. He helped countless people find their way to health and will forever be remembered for that.

He played a big part in my education and understanding of the range of health effects that can result from exposure to water damaged conditions and mold, and I will miss him very much.

Dr. Janette Hope  
California



**We lost a giant in our field and a good friend and a wise counselor. Jack's knowledge and skills are irreplaceable. His generosity was always available to us.**

## Thoughts from Dr. Raymond Singer

Losing Jack is a tremendous loss to toxicology and to me personally. We lost a giant in our field and a good friend and a wise counselor. Jack's knowledge and skills are irreplaceable. His generosity was always available to us.

Jack recently helped me secure justice for a beleaguered child with mold poisoning in a very difficult lawsuit, providing me significant and pertinent background information necessary to educate the court regarding mold neurotoxicity, and the unreliability of the defense witness.

Jack was long an example of honesty and creativity in the practice of toxicology. He was able to quickly assimilate new research in toxicology into an existing schemata, particularly with reference to the toxicology of repeated indoor water intrusions.

Jack was fearless in his opinion, and would not kowtow to politically correct opinion.

Jack's continued significant contributions to toxicology even as he aged remains an inspiration to senior toxicologists, such as myself, that we can continue to contribute to science and society's betterment, even in our old age and with variable health status.

My condolences to Jack's family, and thanks to them for sharing Jack with us.

Dr. Raymond Singer  
New Mexico & New York

## Video of Dr. Jack Thrasher

### Tesla Dealership – Jack Thrasher Interview.

February 22, 2010.

Many people are missing Jack and wish they could hear his voice again. Fortunately for all of us, Jack's wisdom will live on in interviews that were recorded. Throughout this newsletter, we are providing links to his interviews, along with a few quotes from Jack.

Discussion about Tesla building their plant on the toxic Downey site. To watch the video, click [here](#).

#### Question from the interviewer:

Why is it that the injured workers have not been provided with toxicology tests to find out if they have these kinds of materials in their bodies?

#### Dr. Thrasher's response:

*The rationale behind that comes from a group called ACOEM, and ACOEM is basically funded by industry. These are the physicians who look at environmental injury. ACOEM is the American College of Occupational and Environmental Medicine. Even though the tests are available, most of these physicians, because of conflicts of interest, refuse to recognize and do the appropriate testing on these individuals.*

#### Question from the interviewer:

Doesn't this violate the precepts of the medical profession?

#### Dr. Thrasher's response:

*It violates the Hippocratic Oath. They swear when they get their license to take care of illness and then they turn around and refuse to recognize it and call these injuries psychosomatic.*

#### Question from the interviewer:

Are you surprised...that none of these government agencies have contacted the workers to find out what's going even though there was a story about this in the Los Angeles Times?

*Even though the tests are available, most of these physicians, because of conflicts of interest, refuse to recognize and do the appropriate testing on these individuals.*

*It violates the Hippocratic Oath. They swear when they get their license to take care of illness and then they turn around and refuse to recognize it.*

## Video of Dr. Jack Thrasher (cont'd)

### Tesla Dealership – Jack Thrasher Interview.

February 22, 2010.

#### Dr. Thrasher's response:

*No. I'm not surprised. Just take a look at who supports congress and senators to get elected on each side of the fence. They get their contributions from industry. People ought to wake up. They promise you something and then they turn around and take money from industry.*

#### Additional comments from Dr. Thrasher:

*The government just plays ostrich. What an ostrich does-- it puts its head in a hole in the ground and guess what's showing. They can't see anything, but that portion of their anatomy is out there for the rest of the world to see.*



*Government is like an ostrich with its head in the sand. Guess what's showing?*

## Thoughts from Dr. Irene Grant

Jack and I met via phone and discovered that we complimented each other's expertise (I'm an academic Infectious Disease specialist with expertise in immune deficiencies and fungal infections).

We played reference ping-pong, shared opinions, hypotheses, critiques, and wonderful, honest phone exchanges.

He was an avid, passionate truth seeker. He promptly saturated my google account because he arduously surfed the literature and steadily sent me references.

His optimism and feistiness in the face of all the depressing issues we shared (pollution, fungal illness, mycobacteria, autoimmune diseases, mycotoxicosis, etc.) was inspiring.

We had such fun sparring with sarcasm and humor, trying to "one up" each other finding new references!

He passionately cared about people and would give his time and care freely whenever suffering strangers called. I have numerous patients who adored him.

He was friendly and encouraging to everyone seeking his advice from so many different backgrounds--patients and professionals.

He was a lighthouse for me. A wise, common-sense, grounding, senior mentor and inspirational coach and a prompt stalwart communicator who challenged me on every exchange to get going, communicate, publish.

We shared the same mission and obsession seeking academic excellence and recognizing academic trickery.

I can still hear him exclaiming "Can you believe it!? Can you believe it!?" whenever he discovered someone or some publication was substandard.

I loved his mind, his ethics, his compassion, his generosity, his energy chasing the current research.... his ability to risk and write. His passion for Truth!!! His academic guts! His sense of humor! His character!

unique in all  
the world

The Little Prince- by Antoine de Saint-Exupéry



Jack Thrasher was "unique in all the world"

## Thoughts from Dr. Irene Grant (cont'd)

Jack had so many dreams and missions for us to carry on.

I will spend the rest of my life honoring him--his passion, forthrightness, kindness, generosity, intellectual rigor, as well as his toxicologic and environmental safety missions (much more than mold and mycotoxins). He "raised the bar." He was "unique in all the world."

Dr. Irene Grant  
New York

*The ultimate success of a truth  
depends not on the many but  
on the perseverance and  
earnestness of the few.*

Emma Goodman  
June 1909

A little bit of history about Emma Goodman:

Emma Goodman (1869-1940) was a leading figure in international anarchism and feminism, a passionate advocate of free speech, birth control, and worker's rights. Goodman committed her life and work to fighting for "everybody's right to beautiful, radiant things."

## Video of Dr. Jack Thrasher

**ACOEM, Mold, Injured Workers & the Insurance Industry** with Dr. Jack Thrasher. May 23, 2011.

Dr. Thrasher spoke at the national conference on Corporate Medicine, Injured Workers, ACOEM and Labor in San Francisco, California. To view the video, click [here](#).

Dr. Thrasher's opening remarks:

*When you get into a water-damaged building, whether it be a school, a house or a building, there is more than mold present. We have a variety of species of fungi...and there are bacteria that are almost as dangerous if not more dangerous than fungi. The bacteria consist of two groups that we call gram-negative and gram-positive. The gram-negative group are pathogenic. The gram-positive group includes a whole group called actinomycetes. The actinomycetes produce toxins that are more toxic than the mycotoxins that are produced by the mold. So what we are dealing with is a very complex environment that is impinging upon the human being in that environment.*

Dr. Thrasher shared information about five cases he was working on. In reference to one case involving a family of five that moved into a brand-new home and get sick, he said the situation was "corrected" but the family continued to be sick. He was called in to investigate the "so-called remediated house" and "they still had water intrusion, they still had the fungi." During arbitration, the arbitrator said, "They remediated this thing 3 years ago. Why are they still sick?" Dr. Thrasher said, "Well, sir, we went in on these dates and this is what we found. They never cleaned the damn mess up to begin with."

*It's very interesting that I always get called a junk scientist, but why do the cases get settled out of court? If I'm a junk scientist, put me on the witness stand. They will not do that. They don't want this information out to the general public."*

*In 1988, I was called into Washington, D.C. by the EPA Union. The workers in that building were getting sick. The EPA administrator stood up and said 'we recognize that sick building syndrome truly is real, but we don't have that here.' Everyone in the room (1,000 people) stood up and booed him off the stage.*

**"What counts in life is not the mere fact that we have lived. It is what difference we have made to the lives of others that will determine the significance of the life we lead."**

Nelson Mandela

One of the many lessons from the way Dr. Thrasher lived his life

## Thoughts from Angel De Fazio

With the passing of Jack, his family lost a loving father and grandfather, and the environmental health community lost an icon.

I first met Jack when he was one of my experts during litigation. We quickly became good friends, and he volunteered to serve as the Technical Director of the National Toxic Encephalopathy Foundation.

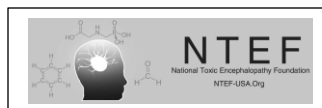
When he would come to Las Vegas, we always spent time together. He was always modest about his expertise and never sought to become a 'name' but just wanted to be there for those who needed him. He was the epitome of a gentle soul.

Very rarely did you hear him disparage anyone. His wry sense of humor was second to none. His deadpan responses were legendary.

If you needed something, you knew he would respond immediately.

There are no words to express the personal loss I feel over his passing...RIP Jack.

Angel De Fazio, BSAT  
President, National Toxic  
Encephalopathy Foundation  
Nevada



## Family of Six, Their Health and the Death of a 16-Month-Old Male from Pulmonary Hemorrhage: Identification of Mycotoxins and Mold in the Home and Lungs, Liver and Brain of Deceased Infant

Research Paper (2014)

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### Authors:

Jack Dwayne Thrasher, Dennis H. Hooper and Jeff Taber

### Abstract:

The health of a family of six residing in a water-damaged home is presented. The family consisted of the parents (age 29), two boys (ages 8 and 12) and new born fraternal twins (male and female). The parents and two boys developed RADS/asthma and had multiple symptoms including nose bleeds.

The fraternal twins experienced respiratory illness that required hospital treatments. The infant girl survived while her brother was found face down, blue in color, lifeless with oral and nasal blood discharge.

Pathology demonstrated areas of peribronchial inflammation, intra-alveolar, and numerous hemosiderin laden macrophage (hemosiderosis). Environmental evaluation of the home revealed *Stachybotrys*, *Aspergillus*/*Penicillium*, *Cladosporium* and *Chaetomium* in various rooms of the home.

Mycotoxins detected in the home included Sterigmatocystin, 5 methoxy-sterigmatocystin Roquefortine C, Satratoxin G and H, Roridin E and L-2, isosatratoxin as well as other *Stachybotrys* secondary metabolites.

*Aspergillus versicolor* was identified by PCR-DNA analysis in the lungs and brain of the deceased child. Aflatoxin was detected in his lungs, while monocyclic trichothecenes were identified in the lungs, liver and brain.

The literature is briefly reviewed on the subject of fungi and their secondary metabolites present in water-damaged homes and buildings.

The parents and children in this case study were non-smokers. They were exposed to high concentrations of mold spores and mycotoxins present in the indoor environment of their rented home. The parents and siblings experienced multiple health conditions associated with the exposure.

## Family of Six, Their Health and the Death of a 16-Month-Old Male from Pulmonary Hemorrhage

Research Paper (2014)--continued

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From page 8 of the paper (in reference to the 1993-1994 incident in Cleveland where several babies died from pulmonary hemorrhage): Comments are in order regarding the role or secondary exposure to cigarette smoke. The CDC pointed out that the Cleveland infants had exposure to tobacco smoke in their homes as verified by Dearborn, et al. The family in this investigation consisted of nonsmokers but experienced nasal bleeding and the death of one infant from pulmonary hemorrhage.

### Conclusion:

The parents and children in this case study were non-smokers. They were exposed to high concentrations of mold spores and mycotoxins present in the indoor environment of their rented home. The parents and siblings experienced multiple health conditions associated with the exposure.

With respect to the fraternal twins, the sister developed nasal bleeding, fever, anemia and difficulty with breathing. She recovered sufficiently after being in the hospital and returned home. The male twin died from pulmonary bleeding and failure. PCR-DNA testing revealed *Aspergillus versicolor* in the lungs, liver and brain.

Tests for mycotoxins detected aflatoxin lungs and trichothecenes in the lungs, liver and brain. Thus, exposure to molds and their secondary metabolites present in a water-damaged indoor environment presents a health hazard to the occupants.

See *Interview by Dr. Mercola* on page 8

## Interview with Dr. Jack Thrasher

### Toxicology Expert Dr. Jack Thrasher on Mold Exposure.

Interview by Dr. Joseph Mercola. July 21, 2011.

Dr. Joseph Mercola conducted an in-depth interview with Dr. Thrasher in 2011. It is a 6-part audio recording. To read the full transcript of the interview, click [here](#).

There is an article that highlights this interview. You can read excerpts from this article on page 15 of this newsletter.

A few key quotes from Dr. Thrasher are presented below in *italics*.

*Mold is probably far greater than anything I've ever looked at before particularly in the indoor environment. Some of these mycotoxins that molds produce are far more toxic than any of the heavy metals I've looked at. They also tend to affect more biological systems in the body than a pesticide would or a heavy metal would. For example, Stachybotrys produces mycotoxins referred to as trichothecene. They inhibit protein synthesis. It infects every organ of the body from your toes to the top of your head.*

*Mold and bacteria...they tend to mutate very rapidly. Let's take a look at Cryptococcus for example. Cryptococcus used to be endemic to the deserts of southwest United States. Now there is a new species (Cryptococcus gattii) that was accidentally released in Vancouver, Canada. It's spreading from the northwest through the country. It's a mutated form. It's highly pathogenic to humans. About 25 to 30 percent of the humans who have become infected with it die.*

**Question:** I'm wondering what type of resistance to explaining this you are finding when you're involved in litigation of cases. Do most of the jury members believe you or is it the judges that you have challenges with?

*It's slowly becoming more widely accepted, but there is still a tremendous amount of resistance. The insurance companies have put a tremendous amount of money into the defense. They've hired (of course) defense experts who just get up and claim there is nothing wrong with these indoor environments.*

It's my opinion they don't want the world to know what actually is going on. They're trying to hide this information—even the federal government agencies like the CDC and the EPA. They're backing off and not admitting there is a major pandemic. It's not an epidemic but a pandemic that some 30 to 40 percent of the schools in this country are affected by water intrusion with microbial growth. That's a horrible statistic.

## Interview with Dr. Jack Thrasher—cont'd

### Toxicology Expert Dr. Jack Thrasher on Mold Exposure.

Interview by Dr. Joseph Mercola. July 21, 2011.

*What I'm finding is that if the cases are worked up well enough and with enough data, enough information, they settle out of court and they don't go to trial anymore.*

**Question:** Interesting. You're seeing an increase in those settlements and acknowledge by the insurance industry that this in fact is a reality and they're less willing to take it to trial?

*Yes. It's my opinion they don't want the world to know what actually is going on. They're trying to hide this information—even the federal government agencies like the CDC and the EPA. They're backing off and not admitting there is a major pandemic. It's not an epidemic but a pandemic that some 30 to 40 percent of the schools in this country are affected by water intrusion with microbial growth. That's a horrible statistic.*

When Dr. Thrasher was asked about using bleach or ozone or other quick remedies to remove or kill mold, he described the way those methods work and why they are dangerous.

Then, he repeated his usual response:

*Just look them straight in the eye and say, "Do you have your data that validates what you're stating?" Where is it published so I can read the data and can confirm what you're telling me? They don't have it.*

...continued on page 9

## Interview with Dr. Jack Thrasher—cont'd

### Toxicology Expert Dr. Jack Thrasher on Mold Exposure.

Interview by Dr. Joseph Mercola. July 21, 2011.

*continued from page 8...*

The interview continues with a discussion on a variety of topics including home construction. Dr. Thrasher discusses wallboard, carpets, particleboard, basements, foundations, sprinkler systems, polyethylene PVC piping, humidity and construction defects.

They also discuss the proper way to use moisture meters, why bleach should not be used, the dangers of using ozone, etc.

To listen to the audio recordings of the interview with Dr. Thrasher:

**Part 1 of 6.** Click [here](#).

**Part 2 of 6.** Click [here](#).

**Part 3 of 6.** Click [here](#).

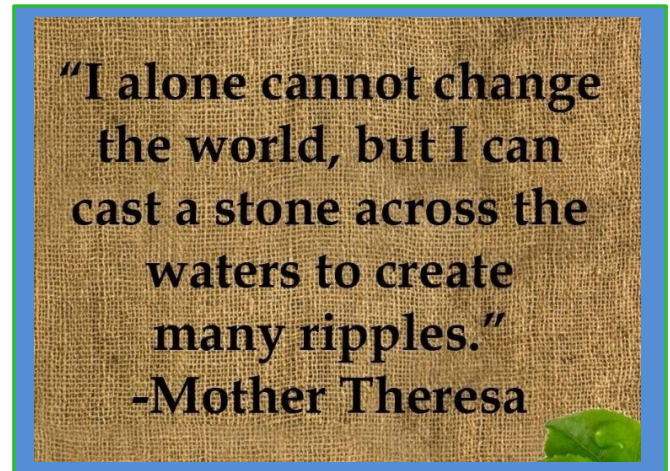
**Part 4 of 6.** Click [here](#).

**Part 5 of 6.** Click [here](#).

**Part 6 of 6.** Click [here](#).

## Dr. Thrasher's Legacy

His legacy extends far beyond the papers he published or the legal battles he fought and won. It includes the family he loved, the friendships he made, the people he helped, the lives he changed, and the memory of his courage, tenacity, perseverance and determination.



## Thoughts from Cheryl Wisecup

Dr. Jack Thrasher was a good friend, trusted advisor and esteemed colleague to many people around the world. His legacy extends far beyond the papers he published or the legal battles he fought and won. It includes the family he loved, the friendships he made, the people he helped, the lives he changed, and the memory of his courage, tenacity, perseverance and determination.

I had many conversations with Jack over the years. He was always ready to help and freely shared his expertise and knowledge.

I enjoyed his sense of humor and his direct, no-nonsense approach. We had great fun when he would call to tell me of his latest battle with the defense attorneys and defense experts (naysayers). They usually settled those cases out of court because they didn't want him to testify and put his knowledge on the record.

When we received emails from companies claiming to have the latest "miracle" for removing contaminants in water-damaged buildings, he would always say "Show me the research that proves the efficacy of your product and that it's safe for humans and animals." They never had the proof.

He had an incredible work ethic. He was always busy with phone calls, emails, investigating sick buildings, writing reports, giving his support to various groups, volunteering his time and writing research papers (with two new papers coming out soon).

He will be missed, and he will be remembered.

See *Some of Jack's favorite things* on page 10

## Some of Jack's favorite things



In addition to spending time with family and friends, Jack had many hobbies over the years. He especially enjoyed golfing, camping and fishing.

One of his favorite spots was Rush Creek in the Sierra Nevada mountain range in California. Rush Creek is a 27.2-mile-long creek on the eastern slope of the Sierra Nevada in Mono County (3 hours south of Sacramento). It is home to world-class trout fishing and numerous campgrounds.



Jack enjoyed dining out with friends and family at Mexican restaurants.

One of his favorite dishes was the chile relleno, and he also loved the chips and salsa.

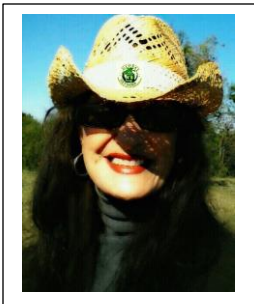
## Thoughts from Marcie McGovern

We have lost a dear friend and knowledgeable expert in our fight to educate others about the dangers of toxic mold and other toxins.

Such a tragic and heartbreaking loss. He was (is) a 'giant' in heart and seemed to have an endless supply of energy and passion for keeping up with the science and helping others who were ill and suffering.

Jack was a dear friend and could always make me laugh. He will be missed beyond what words can describe.

My condolences to his family and friends. I will miss his kind soul and his friendship.



Never to be forgotten and his light will continue to shine in our memories!!

With love,  
Marcie McGovern  
Texas



## Antibodies to Molds and Satratoxin in Individuals Exposed in Water-Damaged Buildings

Research Paper (2003)

**Authors:** Aristo Vojdani, Jack D. Thrasher, Roberta A. Madison, Michael R. Gray, Gunnar Heuser, Andrew W. Campbell

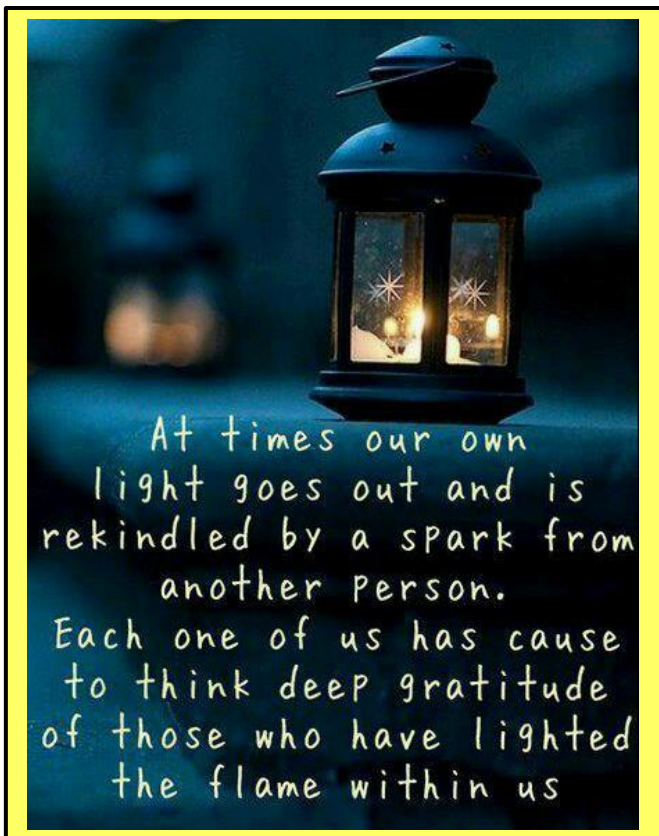
**Abstract:** Immunoglobulin (Ig)A, IgM, and IgG antibodies against *Penicillium notatum*, *Aspergillus niger*, *Stachybotrys chartarum*, and satratoxin H were determined in the blood of 500 healthy blood donor controls, 500 random patients, and 500 patients with known exposure to molds.

Levels of IgA, IgM, and IgG antibodies against molds were significantly greater in the patients ( $p < 0.001$  for all measurements) than in the controls. These findings indicated that mold exposure was more common in patients who were referred for immunological evaluation than it was in healthy blood donors.

The detection of antibodies to molds and satratoxin H likely resulted from antigenic stimulation of the immune system and the reaction of serum with specially prepared mold antigens. These antigens, which had high protein content, were developed in this laboratory and used in the enzyme-linked immunosorbent assay (ELISA) procedure.

The authors concluded that the antibodies studied are specific to mold antigens and mycotoxins, and, therefore could, be useful in epidemiological and other studies of humans exposed to molds and mycotoxins.

See *Interview by Andrea Fabry* on page 12



## Interview with Dr. Jack Thrasher

### Dr. Jack Thrasher Talks about Mold and Mycotoxins

Interview by Andrea Fabry (April 15, 2016)

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Dr. Jack Thrasher Talks about Mold and Mycotoxins. Interview by Andrea Fabry. April 15, 2016. A few excerpts are provided below. To hear the entire audio recording, click [here](#).

Question from Andrea Fabry:

What about remediating water-damaged buildings? There are a lot of different viewpoints on this, and so many times we hear from a mold remediator that “we just poured bleach on it and it’s going to be fine.” What should we know about remediating a water-damaged building?

Dr. Thrasher’s response:

*Stay away from bleach. Bleach is a horrible irritant of the lungs and eyes. When you use bleach, you chlorinate the mycotoxins.*

Question from Andrea Fabry:

Is it always possible to remediate a home? Can you talk a little bit about that?

Dr. Thrasher’s response:

*I do not believe it’s possible to totally remediate a home. We are testing the HVAC systems and we are also testing the dust in the compressor of refrigerators.*

*Why are we doing that? The refrigerator operates 24/7 and gives us a history of the home from the time the refrigerator was originally installed until the time of the test. You follow?*

*We also test the HVAC...the same thing there. What we are finding in both systems ... is we are finding all of the toxic molds that we see when we are looking at water - damaged materials. We are also finding the mycotoxins in the ventilation system and the refrigerator dust.*

Comments by Dr. Thrasher about remediation:

*I have a home here in Sacramento that the people moved back in after so-called remediation, and they could not stay in the home. So we went over and tested their HVAC system. Guess what we found? Stachybotrys, chaetomium and other dangerous spores and mycotoxins in the HVAC system and the ducts.*

## Interview with Dr. Jack Thrasher (cont’d)

### Dr. Jack Thrasher Talks about Mold and Mycotoxins

Interview by Andrea Fabry (April 15, 2016)

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In regard to some of the homes he has investigated, Dr. Thrasher said:

*I have a home here in Sacramento that the people moved back in after so-called remediation, and they could not stay in the home. So we went over and tested their HVAC system. Guess what we found? Stachybotrys, chaetomium and other dangerous spores and mycotoxins in the HVAC system and the ducts. They would turn them on and get sick, so they could not move back in the home.*

*I have had several other families the same way. They just moved out of their homes and got away from them.*

Question from Andrea Fabry:

What does this tell us about cross-contamination because this is the other very common question? Can I take my things with me if I have to leave the home?

Dr. Thrasher’s response:

*What we now know is the vibrations and air currents in the home fractionate the mold colonies, bacteria and fungi . The key fragments we are concerned about are what we call nano-particulates. A mold spore is about one micron or larger. The nano-particles are way down below one micron, generally in the range of .03 to .3 microns. What’s so dangerous about these is they are over a thousand times greater concentration than any airborne spore count you get.*

See *Why I Will Never Forget Jack* on page 13

## Why I Will Never Forget Jack

### Show me the Research!!

By John McBride

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I love the idea that we are using this newsletter to honor Dr. Jack Thrasher. As I recall memories of my dear friend, it came to me that I should title this essay "Why I Will Never Forget Jack."

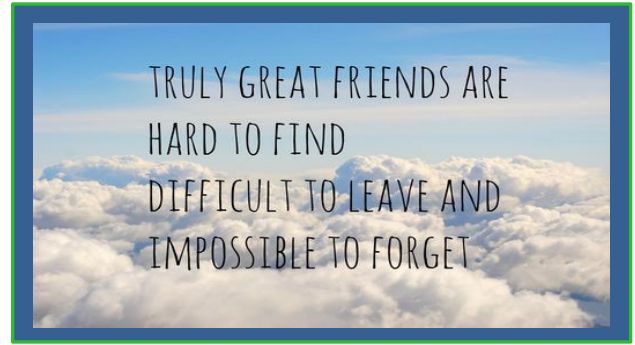
I first spoke with Jack in 2008. From our almost daily phone conversations, a good friendship blossomed. He gave freely of his time and taught me so much, and I will be forever grateful. I have tried to pay it forward by passing along what he taught me and by helping to educate and assist others whose lives have been ravaged by mold.

Jack had such a distinct voice. I am sad and frustrated that I will never hear his voice directly again. When we were discussing science and he was educating me, he would repeatedly say "You follow?" That phrase has played over and over again in my mind since his passing.

Below are a few brief stories that will demonstrate why I will never forget Jack.

When my family was severely ill from mold, one of our most difficult symptoms was short-term memory loss. My children were attending grammar school at the time, and they were being given detentions due to their memory loss. The school personnel insisted this was a matter of discipline--not a health issue caused by mold. Dr. Thrasher came to their defense. Not only did he write a toxicological report, but he also spoke directly with schools officials. Because of Dr. Thrasher, the detentions stopped and the school provided home schooling and other reasonable accommodations for my children.

Another incident which affected me directly was when I was trying to educate a support group on the effects of mold exposure, chemical sensitivities and neurotoxicity. This group was very resistant to the idea that mold could cause illness. Shortly after this meeting, a representative from the mental crisis unit and a police officer showed up at my door and hauled me away to the hospital's crisis unit. This infuriated Dr. Thrasher, and in his direct and vigorous way, he gave the hospital personnel a tongue lashing and a quick education.



## Why I Will Never Forget Jack (cont'd)

By John McBride

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With Dr. Thrasher's help, as well as telephone calls from other advocates, I was quickly released. The hospital personnel sent me out the door and begged me to tell "my friends" to stop calling. It was a clear victory for our cause!

My family would have suffered so much more damage if not for Dr. Thrasher, and the entire cause has lost the most outspoken General.

Another important lesson Jack taught me was how to respond to doctors when they said mold isn't harmful or they would dismiss our illness. When in debate with a doctor who right out dismisses that mold can make you sick or at the very least debates about some of the illnesses it causes, he taught me to ask a very simple but powerful question:

*"Can you show me the research you conducted or cite for me peer-reviewed papers you have had published which supports the claims you are making that mold cannot induce illness?"*

I will miss working with Jack on mold cases. We often shared research papers back and forth and had fun discussing the latest findings.

Jack was always ready and willing to share his knowledge and help those who were ill and suffering. Because of Jack's help, I was able to write mold legislation for the state of New Jersey, speak out on this issue at meetings and teach others about the health effects of mold.

Jack, I will deeply miss you! You were a good friend and a great man!

John McBride  
New Jersey

## A Case of Reye's-Like Syndrome in a 68-Day-Old Infant: Water Damaged Home, Mold, Bacteria and Aflatoxins

Research paper (2014)

**Authors:** Michael R. Gray, Jack D. Thrasher, Dennis Hooper and Robert Crago

**Introduction:** Reye's Syndrome is characterized by acute encephalopathy, hepatic injury accompanied with elevated serum ammonia, serum fatty acids, amino acids and triglycerides; hypoglycemia, prolonged prothrombin time, fatty infiltration of the liver, and mitochondrial pathology.

We present an infant that died at 68 days of age with Reye's syndrome. The infant and parents were exposed to airborne fungi, bacteria and toxic bioaerosols resulting from water intrusion in the home.

The purpose of this study was to investigate and, if possible, to determine the cause of death of the infant with respect to the fungi, bacteria and their toxins present in the families water-damaged home.

**Materials and Methods:** Health and genetic history was done on the family (father, mother and two siblings). Environmental evaluation was carried out to identify airborne fungi and bacteria in the home.

Clinical testing of the baby while in the hospital provided data on blood chemistry and EEG results. Mitochondrial studies on skin fibroblasts and skeletal muscle were carried out testing for functions of Complexes I-IV and mitochondrial DNA mutations.

Light and E.M. microscopy were done on liver biopsy material. Immunoaffinity column and fluorometry were used to detect aflatoxins (B1, B2, G1 and G2) in liver autopsy material. The mother's breast milk and urine was tested for mycotoxins: trichothecenes, aflatoxins and ochratoxin.

**Results:** Medical and genetic history were negative for familial diseases similar to Reye's syndrome and for mitochondrial DNA mutations. Aortic and pulmonic valve abnormalities were observed.



## A Case of Reye's-Like Syndrome in a 68-Day-Old Infant: Water Damaged Home, Mold, Bacteria and Aflatoxins

Research paper (2014)--continued

Environmental testing revealed the presence of elevated levels of several species of fungi and bacteria in the infant's bedroom and other rooms of the home. Clinical diagnostic tests of the infant revealed metabolic acidosis, elevated serum ammonia, triglycerides, pyruvic and lactic acids, serum alanine, and beta-hydroxybutyrate.

Mitochondrial studies showed decreased function of complexes I-IV and the absence of known mutations associated with mitochondrial diseases. Microscopy (light and E.M.) of biopsies demonstrated the accumulation of glycogen in muscle and fatty droplets in the liver.

Aflatoxins were detected in the infant's liver (2.1 ppb), and the mother's breast milk (15 ppb), while maternal urine was positive for trichothecenes (4.76 ppb) and ochratoxin (3.4 ppb).

**Conclusions:** After a review of the peer reviewed literature, we conclude that the infant died of a Reye's-Like Syndrome at the age of 68 days (all 22 cited criteria were met). Clinical and autopsy findings were consistent with this disease process. The valvular abnormalities found are associated with actinomycetes exposure.

The medical and genetic histories were negative for any familial diseases of a similar nature. The infant had mitochondrial dysfunction of complexes I-IV, suggesting mitochondrial disease consistent with aflatoxin toxicity. The presence of aflatoxins in the liver supports the causal role of this mycotoxin in the illness of this infant.

We have discussed the role of other factors in the indoor environment that may also lead to similar conditions.

See *Mold: The Hidden Pandemic* on page 15

## Mold: The “New” Hidden Pandemic Sweeping Across America

Article on mercola.com (July 30, 2011)

This article on the Mercola website is very popular in web searches about toxic mold. Excerpts from the article are included here, and quotes from Dr. Thrasher are highlighted.

Dr. Jack Thrasher has a PhD in cell biology from the UCLA School of Medicine, and is an expert on the impact of mold on human health. Here, he discusses the health effects of toxic molds and bacteria, as well as his recommendations for remediation.

Jack Thrasher, PhD, is extremely knowledgeable on the topic of mold and how it impacts your health. Interestingly, from a toxicity point of view, some mycotoxins that molds produce are actually far more toxic than heavy metals, in terms of concentration. Mold mycotoxins also tend to affect more biological systems in your body than pesticides or heavy metals do.

*"For example, stachybotrys produces mycotoxins referred to as trichothecene. They inhibit protein synthesis. It infects every organ of your body from your toes to the top of your head," Dr. Thrasher says. "I really think that the molds are much more dangerous from that point of view."*

This flies in the face of what is commonly appreciated about toxic contaminants. Most would assume that pesticides or heavy metals would be far more dangerous. However, mold is a very significant health issue. And despite the fact that molds have been around forever, mankind has not developed greater tolerance against them than more modern chemical toxins. Part of that is because they tend to rapidly mutate.

*"Let's take a look at Cryptococcus for example," Dr. Thrasher says. "Cryptococcus used to be endemic to the deserts of southwest United States. Now there is a new species... that was accidentally released up in Vancouver, Canada. It's spreading from the northwest throughout the country. It's a mutated form, [and] highly pathogenic to humans. About 25 to 30 percent of the humans who have become infected with it die... when they mutate they avoid our immune system."*



## Mold: The “New” Hidden Pandemic Sweeping Across America

Article on mercola.com (July 30, 2011)--continued

*The other thing they can do is produce chemicals that suppress your immune system at the same time. So therefore, I don't think we'll ever become resistant to these organisms."*

According to Dr. Thrasher, the prevalence of mold in America is so great, he refers to it as pandemic. As many as 40 percent of all American schools and at least 25 percent or more of all homes are believed to be affected by mold and microbial growth due to water intrusion. A large portion of the problem stems from shoddy construction.

He explains:

*"One thing that I have seen and observed by working with individuals in the field who understand construction, is that construction is extremely poor in the homes we have today. Plus, they're using building materials that are tremendous good food material for the microbes."*

*When I was a child... all the homes were built with genuine lath and plaster on the inside. [Now] you walk in and knock on any wall and you have what we call wallboard. That wallboard loves and is a good growth medium for all forms of mold. Everyone that I can think of, almost everyone now has carpets. The backside of carpets is also a great growth medium for mold and bacteria."*

...continued on page 16

See *Mold: The Hidden Pandemic (cont'd)* on page 16

## Mold: The “New” Hidden Pandemic Sweeping Across America

Article on mercola.com (July 30, 2011)--continued

Continued from page 15...

*The other type of home that I'm seeing that is of tremendous potential problems to the homeowner is homes that are built with a basement... [T]hey put the concrete down, and there is no water barrier between the earth and the concrete wall of the basement.*

*The same thing with the foundation, there is no water barrier. So when you water your yard, when there are heavy rains and things like this, the moisture... goes right to the foundation and into the basement or underneath the house, and then the moisture wicks up through the home, increasing humidity.*

*All of that increasing humidity, anything above 60 percent is going to lead to growth of mold and bacteria... People have to be very careful about this situation. That's the reason why I call it a pandemic."*

Gutters can also cause problems. You need to be mindful of the drainage from your roof. I didn't realize this myself, and suffered the consequences when one of the gutters on my home drained onto the ground directly beside the wall, and the water seeped straight through to my basement. So you want to make sure the downspout is far enough away from the building. Ideally, it should empty at least 5 to 10 feet from the wall.

You also want to take care that the soil next to the walls of your home slopes away from the walls, to prevent water from collecting around the foundation. And make sure your lawn sprinklers do not spray the walls. Other common construction issues that can contribute to water intrusion and subsequent mold proliferation include:

- Using polyethylene PVC piping instead of copper or galvanized piping, which can be easily punctured by nails or staples
- Bath tubs installed with improper sealing around the drain
- Improperly sealed sinks and garbage disposal
- Installing particleboard (waferboard) after it has been rained on during construction

Other topics included in the article are: bacteria, how to detect a mold problem, remediation, how to choose a remediator, how to clean up minor surface mold, ozone generators and a few comments about health problems related to mold and why you shouldn't use corticosteroids or antibiotics.

To read the entire article, click [here](#).

Success must include two things: the development of an individual to his utmost potentiality and a contribution of some kind to one's world.

Eleanor Roosevelt

PICTUREQUOTES.COM

## Thoughts from Josef Dumanov

Dr. Jack Thrasher's contributions to understanding mycotoxins will be long recognized by the medical mycology community for their role in human health.

He was always kind in sharing his insight, studies and publications.

He will be missed, but his work goes on. He will be with us always.

Rest well Jack. Get back soon. More work to be done!

Professor Josef Dumanov  
Mycological Institute US UK EU  
subclinical Research Group

See *Remembering My Educator and Friend* on page 17

## Remembering My Educator and Friend Dr. Jack Dwayne Thrasher

By Sandi Trend

Dr. Thrasher came into my life at a period of time when my son had become ill from his occupational exposures to known and unknown bacteria and fungi while working as an Assistant Researcher at an agricultural research and development biotech lab in California. This lab searched for 'novel' and newly discovered bacteria and fungi---some of which had never been identified before from around the globe. These discoveries are hoped to become the 'active ingredient' in the new era of 'natural' bio-control products to replace chemicals for insecticides, pesticides, fungicides, soil treatments, seed treatments, fertilizers, etc.

Through the years, many people had educated me on what was still happening to my son. Dr. Thrasher explained things to me differently, in a way that was much easier to comprehend. He never made me feel less than him and was always kind and compassionate. Many a time, Dr. Thrasher and I sat eating at fast food joints or restaurants while he poured over my son's medical charts, labs and radiological reports (to name just a few) explaining to me what they meant.

As if Dr. Thrasher didn't have enough on his plate, preparing for and testifying in toxic mold cases. I doubt he understood what I was going to get him involved with! I had become an injured worker advocate, and there were sure a lot of people who had been made ill and had diseases from on-the-job exposures to mycotoxins that needed to hear his expert testimony. Even though he always had a busy schedule, he would graciously accept my asking him if he would be a speaker at events.

Here are a few of the events Dr. Thrasher spoke at:

**July 17, 2010:** At a National Educational Conference on Biotechnology, Health and Safety, Labor and the Public, Dr. Thrasher testified about mold, ACOEM and the systemic corruption that prevents the protection of the health and safety of workers and the public. [Sponsored by the California Coalition for Workers Memorial Day]



## Remembering My Educator and Friend Dr. Jack Dwayne Thrasher (continued)

By Sandi Trend

**March 26, 2011:** Dr. Thrasher testified at the National Conference on Corporate Medicine, Injured Workers, ACOEM and Labor in San Francisco. [Sponsored by the California Coalition for Workers Memorial Day] To watch the video, click [here](#).

**March 29, 2012:** Dr. Thrasher attended the 'standing room only' event titled "Unmasking the Bay Area Bio-Lab and Synthetic Biology: Health, Justice and Communities at Risk." It was held at the David Brower Center in Berkeley, California. After the event, Dr. Thrasher was engulfed in the audience with questions concerning a wide variety of topics, including the never-ending emergence of new bacteria and fungi.

In 2012, Dr. Thrasher volunteered as a Consulting Committee Member of the Injured Workers National Network (IWNN).

I will forever miss my friend Dr. Thrasher with his quick wit and laughter, his love of life and mankind and his willingness to always help toxic mold victims and injured workers. There will never be another Jack Thrasher, never.

I miss him, and I am sad that I won't be able to call him and hear him answer the phone with "Well hello Sandi" before I even say a word. I am honored to have been called his friend.

Sandi Trend  
California

## Antibodies and Immune Profiles of Individuals Occupationally Exposed to Formaldehyde: Six Case Reports

Research Paper (1988)

### Authors:

Jack D. Thrasher, PhD, Alan Broughton, MD, PhD, and Paul Micevich, PhD

### Abstract:

Six patients with multiple subjective health complaints, which have been correlated with chronic exposure to formaldehyde during the course of their education and occupations, were tested for the existence of antibodies (IgE, IgM, and IgG) to formaldehyde (F) conjugated to human serum albumin (F-HSA). In addition, the percentage and absolute numbers of peripheral lymphocyte subpopulations as determined by surface markers were investigated.

Antibody titers to F-HSA were present as follows: IgE (2 patients), IgM (3 of 4 tested patients), and IgG (5 patients). Analysis of lymphocyte subpopulations showed T-helper/suppressor (H/S) ratios ranging from 0.8 to 3.3.

All 6 patients had elevated Tal cells (antigen memory cells), whereas interleukin 2 receptor positive cells were within expected values. Following formaldehyde exposure, 5 of the patients complained of an initial flulike illness from which they have not completely recovered.

The sixth individual had a history of recurrent respiratory infections and surgical removal of hyperplastic ethmoid sinus tissue. The common occurrence of anti-F-HAS antibodies, flulike illness, and Tal cells are interpreted as suggestive of a chronic antigenic stimulation of the immune system in these 6 patients.

Further immunological work-up of additional subjects and immune parameters with similar history of formaldehyde exposure and subjective health complaints is warranted.

### What is Formaldehyde?

Formaldehyde is a colorless, flammable, strong-smelling chemical widely used to make resins for plywood, particle board, pressed wood products and in paper coatings, glues, plastics, and textile finishes.



It is also commonly used as a preservative in medical laboratories, mortuaries, veterinary clinics and in some hair straightening products.

It is often mixed with water to make a liquid called "formalin" which contains 37 % formaldehyde and 6% - 13% methanol.



## Embryo Toxicity and Teratogenicity of Formaldehyde

Research Paper (2001)

### Authors:

Jack D. Thrasher, Kaye H. Kilburn

### Excerpts from the Abstract:

C-14 formaldehyde crosses the placenta and enters fetal tissues. The incorporated radioactivity is higher in fetal organs (i.e., brain and liver) than in maternal tissues.

The incorporation mechanism has not been studied fully, but formaldehyde enters the single-carbon cycle and is incorporated as a methyl group into nucleic acids and proteins. Also, formaldehyde reacts chemically with organic compounds (e.g., deoxyribonucleic acid, nucleosides, nucleotides, proteins, amino acids) by addition and condensation reactions, thus forming adducts and deoxyribonucleic acid-protein crosslinks.

Pregnant rats were exposed (a) prior to mating, (b) during mating, (c) or during the gestation period. These regimens (a) increased embryo mortality; (b) increased fetal anomalies (i.e., cryptorchidism and aberrant ossification centers); (c) decreased concentrations of ascorbic acid; and (d) caused abnormalities in enzymes of mitochondria, lysosomes, and the endoplasmic reticulum.

In addition, formaldehyde caused metabolic acidosis, which was augmented by iron deficiency. Furthermore, newborns exposed to formaldehyde in utero had abnormal performances in open-field tests.

See *A Water-Damaged Home* on page 19

## A Water-Damaged Home and Health of Occupants: A Case Study

Research Paper (2012)

**Authors:** Jack Dwayne Thrasher, Michael R. Gray, Kaye H. Kilburn, Donald P. Dennis, and Archie Yu

**Summary:** This paper discusses a family of five who had no history of health problems until they moved into a water-damaged home in Hawaii.

### **Abstract:**

A family of five and pet dog who rented a water-damaged home and developed multiple health problems. The home was analyzed for species of mold and bacteria. The diagnostics included MRI for chronic sinusitis with ENT and sinus surgery, and neurological testing for neurocognitive deficits.

Bulk samples from the home, tissue from the sinuses, urine, nasal secretions, placenta, umbilical cord, and breast milk were tested for the presence of trichothecenes, aflatoxins, and Ochratoxin A.

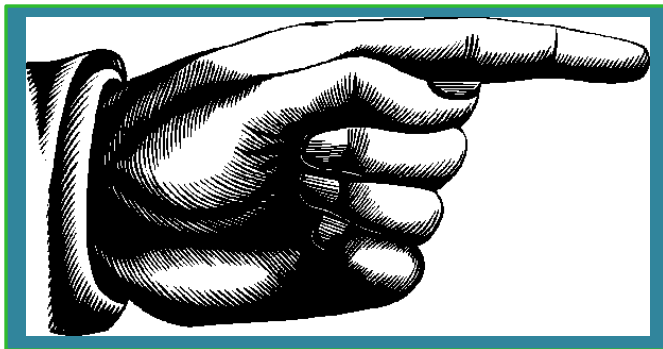
The family had the following diagnosed conditions: chronic sinusitis, neurological deficits, coughing with wheeze, nose bleeds, and fatigue among other symptoms.

An infant was born with a total body flare, developed multiple Cafe-au-Lait pigmented skin spots and diagnoses with NF1 at age 2. The mycotoxins were detected in bulk samples, urine and nasal secretions, breast milk, placenta, and umbilical cord.

*Pseudomonas aeruginosa*, *Acinetobacter*, *Penicillium*, and *Aspergillus fumigatus* were cultured from nasal secretions (father and daughter). RT-PCR revealed *A. fumigatus* DNA in sinus tissues of the daughter.

The dog had 72 skin lesions (sebaceous glands and lipomas) from which trichothecenes and ochratoxin A were detected.

The health of the family is discussed in relation to the most recent published literature regarding microbial contamination and toxic by-products present in water-damaged buildings.



Jack had a quick wit and was well known for “telling it like is” and using common phrases to make his point. One of his favorites was saying “You follow?” after he explained a concept.

Another one was used for people who liked to blame others for their problems. He would say:

**“When you have one finger pointing at another person, you have three fingers pointing back at you.”**

## How Dr. Thrasher Helped Me Beat the HOAs and the Board

By Pati Tomsits

I wish to express my sincere appreciation for Dr. Thrasher's work on my lawsuit and his visit to investigate the damage in my home on June 30, 2011.

At that time, I was in the midst of litigation against the HOAs (homeowners associations) and Board members who govern my property. Nearly two months later on August 22, 2011, we prevailed against the defendants. And we prevailed a second time on December 7, 2012, in the same lawsuit!

Had it not been for the teamwork and outstanding support of everyone involved, including the exceptional work of Dr. Thrasher, the prevailing outcome of my lawsuit against the HOAs and Board members may not have occurred!

Thank you, Dr. Thrasher! You will be remembered.

Pati Tomsits  
California

See *Fungi, Bacteria, Nano-particulates* on page 20

## Fungi, Bacteria, Nano-particulates, Mycotoxins and Human Health in Water-Damaged Indoor Environments

Research Paper (2016)

**Author:** Jack Dwayne Thrasher

### Excerpts from the paper:

Damp or wet building materials occur from a variety of construction defects, roof leaks, HVAC condensation, water intrusion from floods, hurricanes, leaking appliances and plumbing, poorly designed foundations, e.g. basement walls that allow water seepage from wet soils, slope of the building lot leading to water accumulation under concrete slabs. We have been involved in homes with cracked cement slabs, bent aluminum window framing, highly contaminated wall cavities, poorly installed roofing, improperly sealed fireplaces, to mention a few. All of these situations lead to both hidden as well as visual signs of fungal and bacterial growth.

Signs of water intrusion include, but are not necessarily limited to: (1) water stains on ceilings, walls and around windows; (2) increased moisture content using a moisture meter with penetrating electrodes on dry wall (e.g. wall cavities), crawl space, attics and carpeting; (3) visible fungal growth on surface of dry wall, insulation, e.g. crawl space, attic, clothing, shoes and other wearing apparel, bedding, under side of carpeting; (4) musty odor from microbial volatile organic compounds; (5) The E.P.A. cautions that approximately 50% of the fungal growth can be hidden, therefore hidden from view. The identification of airborne mold spores only reveals what is present at the time of testing, not 24/7. Airborne mold testing does not necessarily reveal hidden mold, e.g. wall cavities, attic, under carpeting, ventilation ducts.

Exposure to water-damaged indoor environments and subsequent fungal and bacterial growth leads to a variety of symptoms that are often overlooked by the medical profession. Most likely this results from the fact that a medical doctor with a busy practice has not kept up with the peer reviewed literature on this subject.



*As Vince says "Jack was a Rock Star" and, like Bono, he had fun and he changed the world*

### Thoughts from Vince Neil

Dr. Thrasher (Jack) was my first phone meeting with a toxicologist who understood that exposure to a number of toxins could synergistically provide a huge impact. It was exciting and I was in awe over this man's understanding.

Jack would listen to what an average individual like me had to say and steer and guide accordingly.

In our world, Jack was an older (Aussie humor) rock star but none-the-less a rock star.

Our time here is short and very rarely does anyone get to leave their mark on this world and its occupants. Gentleman Jack has left a huge mark and, to his family, you must be very proud.

I wish I could have been there to help you celebrate his life, but it's simply too far to paddle.

Thoughts from Down Under,

Vince Neil  
Mycotox  
Newcastle, Australia

## The Biocontaminants and Complexity of Damp Indoor Spaces: More Than What Meets the Eyes

Research Paper (2009)

**Authors:** Jack D. Thrasher and Sandra Crawley

### Excerpt from the Introduction:

Damp or wet building materials occur from a variety of circumstances: water intrusion from floods, hurricanes, construction defects, roof leaks, condensation, appliance and plumbing leaks, poorly designed foundations, etc. Furthermore, building materials can become wet during storage, transportation and/or construction. For simplicity, we will use the phrase 'water intrusion' as an all-encompassing term.

The increased health risks and economic impact from microbial growth resulting from indoor dampness are recognized as significant public health problems requiring attention and remediation.

### Abstract:

Nine types of biocontaminants in damp indoor environments from microbial growth are discussed: (1) indicator molds; (2) Gram negative and positive bacteria; (3) microbial particulates; (4) mycotoxins; (5) volatile organic compounds, both microbial (MVOCs) and non-microbial (VOCs); (6) proteins; (7) galactomannans; (8) 1-3-b-D-glucans (glucans) and (9) lipopolysaccharides (LPS – endotoxins).

Gram negative bacterial endotoxins, LPS in indoor environments, synergize with mycotoxins. The gram positive *Bacillus* species, *Actinomyces* (*Streptomyces*, *Nocardia* and *Mycobacterium*), produce exotoxins.

In animal models, LPS enhance the toxicity of rosidin A, satratoxins G and aflatoxin B1 to damage the olfactory epithelium, tract and bulbs (rosidin A, satratoxin G) and liver (aflatoxin B1).

Trichothecenes, aflatoxins, gliotoxin and other mycotoxins are found in dust, bulk samples, air and ventilation systems of infested buildings.



## The Biocontaminants and Complexity of Damp Indoor Spaces: More Than What Meets the Eyes

Research Paper (2009)--continued

Macrocytic trichothecenes are present in airborne particles <2 mm. Trichothecenes and stachylysin are present in the sera of individuals exposed to *S. chartarum* in contaminated indoor environments.

Gliotoxin, an immunosuppressive mycotoxin, was identified in the lung secretions and sera of cancer patients with aspergillosis produced by *A. fumigatus*, *A. terreus*, *A. niger* and *A. flavus*.

### Thoughts from Declan Phelan

I am grateful for the short time I knew Jack. I contacted him out of desperation one day. I was searching online for answers to my illness. I phoned Jack. He was very understanding and generous with his time. The information Jack so kindly shared set me on the right track to finding answers that none of my previous six doctors were able to provide.

I now have some relief after many years of suffering. I'm still not out of the woods, but, thanks to Jack, I am finally going in the right direction.

I wish I could have met Jack to thank him in person, but I did tell him how grateful I was several times when we spoke on the phone. He was a very giving, warm-hearted and compassionate person.

Declan Phelan  
Waterford, Ireland

## A Tribute to Dr. Jack Thrasher

By Andrea Fabry

I first spoke with Dr. Jack Thrasher on a Saturday morning in October of 2008. He told me to call his office after seeing our family's timeline of events I sent to him on the recommendation of an online friend.

I knew he was a toxicologist and a leader in the field of toxic mold, but I had no idea how deeply he cared about those who were suffering its effects.

"This is a very serious situation," he said as he addressed our continued illnesses and our recently remediated home.

Dr. Thrasher could have been engaging in any number of leisurely activities that Saturday morning. Instead, he spent time explaining the gravity of a home contaminated with toxic mold. "Do you follow?" he kept asking. (This was a trademark phrase of his, as I would later learn.)

We left our home that night. The following morning he arranged a conference call with Dr. Michael Gray, my husband Chris and me. Two hours of their time were graciously given on a Sunday morning.

As advised, we treated the home like a fire and never looked back.

Like Dr. Thrasher, I became passionate about helping others sort through the hazards of toxic mold. I founded momsAWARE, relying heavily on the knowledge of Dr. Thrasher. He patiently answered my questions, granted interviews and reviewed my work.

Dr. Thrasher, along with Dr. Irene Grant, worked to compile an extensive list of scientific research papers connecting water-damaged buildings with adverse health effects. Dr. Thrasher allowed us to edit and publish the list on the momsAWARE website.

Dr. Thrasher leaves a gaping hole in the environmental health community. I'll never forget our conversation in 2008 when he said, "I'm 70 years old and I can't retire. Too many people are suffering."

Dr. Thrasher leaves a gaping hole in the environmental health community. I'll never forget our conversation in 2008 when he said, "I'm 70 years old and I can't retire. Too many people are suffering."

## A Tribute to Dr. Jack Thrasher (cont'd)

By Andrea Fabry

Indeed, many are suffering and countless are without knowledge. Dr. Thrasher was dedicated to changing that reality. His personal motto as stated on his website says it best:

***A CLEAN ENVIRONMENT AND GOOD HEALTH  
ARE THE MOST PRECIOUS RESOURCES  
TO LEAVE OUR CHILDREN.***

I emailed Dr. Thrasher eleven days before he died about the tragic pesticide poisoning of a family in Texas from aluminum phosphide. He hadn't heard about it, replying, "All I know is it is highly toxic." When I told him four children had died, he responded with one word: "Horrible."

I will deeply miss Dr. Thrasher and will forever be grateful for his willingness to invest in families like ours.

When I started a podcast in the spring of 2016, Dr. Thrasher was the first person I wanted to interview. I will cherish our conversation. I asked him to reiterate what he told me in 2008 about his unwillingness to retire when so many people are suffering.

"I'll be 80 years old coming up in August and I would like to retire someday. But I'm not going to retire until this issue is brought forth to the public and the public fully understands what is going on."

I am confident many of us will continue Dr. Thrasher's vision for educating the public.

Andrea Fabry  
Arizona

## Molds and Mycotoxins: Effects on the Neurological and Immune Systems in Humans

Research Paper (2004)

**Authors:** Andrew W. Campbell, Jack D. Thrasher, Michael R. Gray and Aristo Vodjani

### Excerpts from the paper:

Occupants of affected structures develop multiple organ symptoms and have adverse effects of the upper and lower respiratory system, central and peripheral nervous system, skin, gastrointestinal tract, kidneys and urinary tract, connective tissue, and the musculoskeletal system. Human illness caused by fungi can result via one or all of the following: (1) mycotic infections (mycoses), (2) fungal rhino-sinusitis, (3) IgE mediated sensitivity and asthma, (4) hypersensitivity pneumonitis and related inflammatory pulmonary diseases, (5) cytotoxicity, (6) immune suppression/modulation, (7) mitochondrial toxicity, (8) carcinogenicity, (9) nephrotoxicity, (10) the formation of nuclear and mitochondrial DNA adducts. Finally, in the infectious state, molds secrete extracellular digestive enzymes (EDE) that cause tissue destruction, angioinvasion, thrombosis, infarction and other manifestations of mycosis.

Table II (in the paper) summarizes observations made on 209 adults exposed at home and/or at the workplace. Complaints significantly different from controls occurred as follows: (1) central nervous system (headache, short-term memory loss, lightheadedness, dizziness, blurred vision, tinnitus, and cognitive function loss), (2) the upper respiratory tract (nasal congestion and chronic sinusitis), (3) the lower respiratory tract (cough, wheezing, chest tightness, exertional dyspnea, and irritation of the throat), and (4) general ill feeling (excessive fatigue, weakness, joint aches and pains, and rashes).

Forgacs noted in 1962 that mold mycotoxicosis was called "the neglected disease." The manifestations and disorders in humans caused by molds and mycotoxins continue to be overlooked or unnoticed by many physicians. Each year studies continue to be published throughout the world medical and scientific literature elucidating and explaining the pathological processes and biomechanisms by which exposure to molds and mycotoxins cause sickness in humans.

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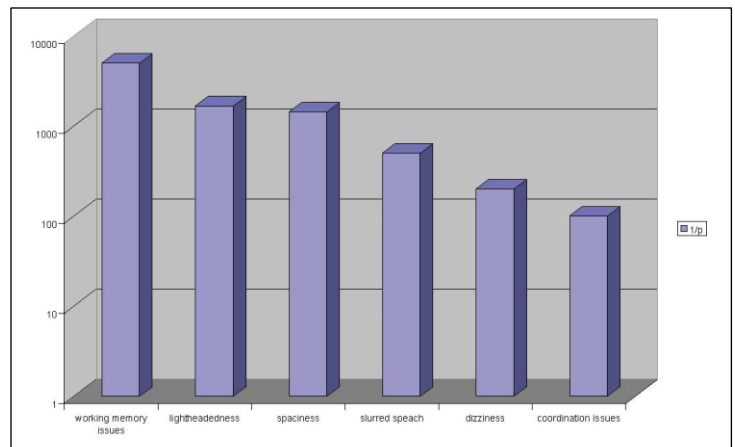
### Thoughts from Tony Marcel

Jack's expertise reached us here in France too. He and I had communicated numerous times over the past few years. He freely shared his knowledge, and I used what he taught me to educate others.

I have used the graphic below many times to illustrate the health effects of mold, and I include the reference to his paper from 2004.

He will always be with me, and I will continue to share his teachings with others.

Tony Marcel  
Health Value  
Paris, France



**From Campbell AW, Thrasher JD, Gray MR, Vojdani A. Molds and Mycotoxins: effects on the neurological and immune systems in humans. Adv. Appl. Microbiol. 2004 (55) 375.**

To view this graphic, click [here](#).

## A Family with ME/CFS Following Exposure to Molds, Mycotoxins and Bacteria in a Water-Damaged Home: A Case Report

Research Paper (2016)

**Authors:** Jack Dwayne Thrasher, Chip Prokop, Curtis Roberts and Dennis Hooper

**Excerpt from the Introduction:** Water intrusion into buildings and homes leads to the presence of microbial growth, including molds and bacteria, endotoxins, microbial volatile organic chemicals (MVOCs) and nano particulates containing secondary microbial metabolites (mycotoxins and 1, 3-beta-D-glucans), and other bio-contaminants. Exposure to any one of these biocontaminants can lead to adverse health effects in occupant. Occupants of these environs can develop a chronic illness, expressing multiple symptoms. A variety of health problems have been associated including cognitive impairment; chronic fatigue; upper and lower respiratory infections; fungal rhinosinusitis; fungal pneumonia and pulmonary bleeding; liver and mitochondrial damage; and stimulation of proinflammatory cytokines. While considered to be an autoimmune disease, Sarcoidosis has been successfully treated with antifungal therapy suggesting a fungal etiology.

### Excerpt from the Abstract:

The health of a family of five exposed to molds, bacteria and mycotoxins in a water-damaged home deteriorated within 2 months. Airborne nonviable spore counts ranged from 12 thousand to over 3 million per cubic meter. ERMI-36 tests of dust from the refrigerator compressor area identified several species of *Aspergillus* and *Penicillium*, *Chaetomium globosum* and *Stachybotrys chartarum*.

The family developed enlarged lymph nodes, skin rashes, unrefreshing sleep, neurocognitive decline, and orthostatic changes consistent with Myalgic Encephalomyelitis-Chronic Fatigue Syndrome (ME/CFS). We propose that the family developed Sarcoidosis as a result of the exposure to fungal micro particles and have been chronically ill for over 3 years following the initial exposure. They currently reside in a home with no known water-damages resulting in mold growth but continue to experience symptoms of ME/CFS.



## The Adventures of Traveling with Dr. Thrasher

Now, for those of you that have never had the pleasure of riding with Dr. Thrasher know that this in itself was always quite an adventure.

He didn't like to turn onto any street other than right. So, as you can imagine we went around a few blocks to get where we were going, all the while making right turns only.

Getting off on freeway exits was always preplanned; and being his co-pilot, looking at the map to tell him before he reached his exit was a bit stressful, especially at night because of my night blindness.

Yes, I missed his preplanned exit point but at no time did Dr. Thrasher get mad or upset with me. He just went with the flow, and we had a good laugh.

We took the next exit, but we did have to make a few "extra" right hand turns to get to where we were going.

Oh, the laughs we had.

His friend and co-pilot,

Sandi Trend  
California



## Detection of Mycotoxins in Patients with Chronic Fatigue Syndrome

Research Paper (2013)

### Authors:

Joseph H. Brewer, Jack D. Thrasher, David C. Straus, Roberta A. Madison and Dennis Hooper

### Abstract:

Over the past 20 years, exposure to mycotoxin producing mold has been recognized as a significant health risk. Scientific literature has demonstrated mycotoxins as possible causes of human disease in water-damaged buildings (WDB).

This study was conducted to determine if selected mycotoxins could be identified in human urine from patients suffering from chronic fatigue syndrome (CFS).

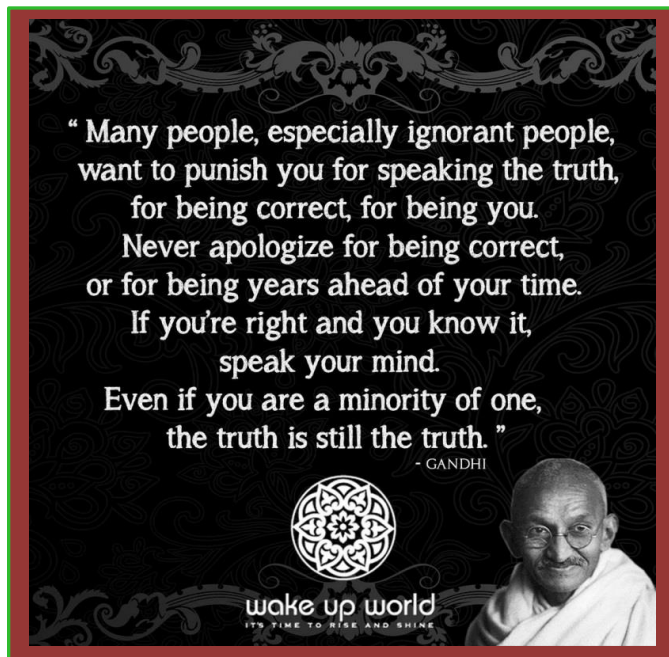
Patients (n = 112) with a prior diagnosis of CFS were evaluated for mold exposure and the presence of mycotoxins in their urine. Urine was tested for aflatoxins (AT), ochratoxin A (OTA) and macrocyclic trichothecenes (MT) using Enzyme Linked Immunosorbent Assays (ELISA). Urine specimens from 104 of 112 patients (93%) were positive for at least one mycotoxin (one in the equivocal range).

Almost 30% of the cases had more than one mycotoxin present. OTA was the most prevalent mycotoxin detected (83%) with MT as the next most common (44%).

Exposure histories indicated current and/or past exposure to WDB in over 90% of cases.

Environmental testing was performed in the WDB from a subset of these patients. This testing revealed the presence of potentially mycotoxin producing mold species and mycotoxins in the environment of the WDB.

Prior testing in a healthy control population with no history of exposure to a WDB or moldy environment (n = 55) by the same laboratory, utilizing the same methods, revealed no positive cases at the limits of detection.



## Thoughts from Teresa McCormick

I am sad about Dr. Thrasher's passing. He was there for so many of us over these past years. Kindness and concern for others were some of his greatest attributes.

I remember how we both remembered our common undergraduate school and how he had time to reminisce.

I have always been so appreciative of his research which I readily share with mold victims, home seekers, politicians and physicians I meet.

Two of his publications are going to a melanoma researcher next week to encourage more research on a possible mold link.

How brave he was to work so diligently on these papers when so many others hesitated because of fear of political fallout.

He will always be there in my heart and mind whenever I work in the field.

He was certainly an inspirational educator who I will always remember in deep gratitude.

Teresa McCormick  
Oregon

## Sphenoid Aspergilloma: Diagnosed as a Malignancy

Research Paper (2015)

### Authors:

Gray MR, Thrasher JD, Hooper H, Dumanov MJ, Cravens R and Jones T

### Excerpts from the Abstract:

This case study was undertaken to demonstrate the important aspects of the differentiation between a fungal infections of the sphenoid sinus vs a diagnosis of cancer. It is important to consider fungal disease in the differential diagnosis when treating masses in the sinuses. A 55 year old female employee was exposed to a water-damaged office that had fungal and bacterial growth. She developed a sphenoid mass that was first diagnosed as cancer. After surgery, radiation, chemotherapy and a second biopsy she discharged fungal hyphae from the opened sphenoid sinus.

Results: The sphenoid mass was shown to be an aspergilloma, *Aspergillus terreus*. Mycotoxins detected in urine were macrocyclic trichothecenes, aflatoxins and ochratoxin. The sphenoid aspergilloma completely resolved following oral and intranasal administration of antifungals. Multiple organ symptoms resulting from her exposure and chronic inflammation abated following detoxification and supportive antioxidant therapy. Clinical observations and diagnostic testing ruled out other causes, revealing chronic inflammation and an infection resulting from exposure to fungi and bacteria in the work environment.

Conclusions: Sphenoid aspergilloma can be medically treated with a combination of voriconazole and cyclosporine when they are administered intranasally. The required duration antifungal therapy can be determined by DNA PCR in combination with MRI and appropriate follow up. The findings are discussed and the rationale for accepting the aspergilloma rather than a sphenoid malignancy is presented. It is imperative that fungal origins be considered in cases of suspected sinus neoplasms.

Courage doesn't always involve physical heroism in the face of death. It doesn't always require giant leaps worthy of celebration. Sometimes, courage is the willingness to speak the truth about what you see and to own what you say.

Seth Godin

PICTUREQUOTES.COM

## Thoughts from Dr. Michael Gray

With sadness at his passing...but happiness knowing the great human Jack was.

Tony Mazzocchi used to say "Those who know, don't tell," when talking about physicians and other scientists who remained silent in the face of "inconvenient truth."

Jack was one of ours. He knew and he spoke out.

Dr. Michael Gray  
Arizona

Note: Tony Mazzocchi was a principal force behind the legislation that created the Occupational Safety and Health Act in 1970.

Dr. Thrasher's mission to spread the truth about the health effects of mold, mycotoxins and other environmental contaminants will continue through the ongoing efforts of his friends, colleagues, researchers and many others. Through our collective efforts, Dr. Thrasher's work will live on and his legacy will be remembered.

Remembering Dr. Jack Thrasher – He will not be forgotten