SOLUTIONS - Indoor Environmental Consulting
Presents

Indiana IAQ

November/December 2011

About Indiana IAQ:

A new kind of newsletter that addresses the concerns of everyone interested in Indoor Air Quality (IAQ) in Indiana. From the many questions and concerns received this newsletter and the ones to follow are developed from specific concerns. Information is collected and applied this way to the articles published.

Who can write in? *Anyone*! Contractors, mitigation technicians, restoration and remediation technicians, real estate professionals, banks, doctors, lawyers, insurance professionals, investors, *anyone* with an interest in IAQ.

To submit an idea for an article, write to: IndianaIAQ@solutionsiec.com.

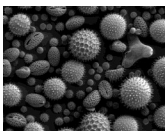
Inside this issue:

Carpets May Become Contaminated with Lead & Asbestos during Renovations 2

NIH: Immune cell plays dual role in allergic skin disease 2

Foundational Hydrostatic Pressure: What it is & does to your structure 3

Contact Information 4



Announcing: Our Websites' Relauched!

After much consideration and work, we are happy to announce our new business website for Solutions Indoor Environmental Consulting and our newsletter website for Indiana IAQ. For the next couple of months we are asking everyone to review each and provide us your feedback. We have already received a lot of comments and are constantly working on both of them in order to provide you with the most user-friendly sites available. To review these websites, please visit us at:

Our Business Page:

http://www.solutionsiec.com

Indiana IAQ Archives:

http://indiana-iaq.weebly.com/

Our Facebook page:

http://www.factbook.com/SolutionsIndoorEnvironmentalConsulting

Our Twitter page:

http://twitter.com/solutionsiec

Thank you. May God bless.

- Jason Yost

Inside this Issue of Indiana IAQ:

Inside this issue of Indiana IAQ we will introduce you to the National Institute of Health's new report on how certain immune cells play a dual role in helping instigate some allergic responses as well as protect us from chronic ones. We will also touch on some general information on allergy and asthma triggers related to the indoor environment.

In another article we will get into a common question asked, "What is hydrostatic pressure?" And we will get into some of the damage it causes to homes (including microbiological ones).

Finally, EMSL brings us a timely article on how your carpets can become contaminated with lead and asbestos during renovations.

So, enjoy, and, as always, please feel free to write to us and comment or ask your questions at indianaiaq@solutionsiec.com.

- Jason Yost

Carpets May Become Contaminated with Lead & Asbestos during Renovations

The national trend towards home improvement projects continues to grow as more people are staying in their homes. Tight economic times also have many people looking to complete projects utilizing their own sweat equity.

These projects can add new life to a home and increase property values. Unfortunately, many homeowners living in homes constructed in the 1970s or earlier, fail to recognize that their homes may have asbestos containing materials and lead-based paints.

The federal government banned lead-based paint from housing in 1978 and some states stopped its use even earlier. During renovation projects any materials coated with lead-based paints may become aerosolized. This can be an immediate threat to anyone breathing the air as well as a future threat to occupants once the contaminated dust settles throughout a property.

Most products made today do not contain asbestos. Those few products made which still contain asbestos that could be inhaled are required to be labeled as such. However, until the 1970s, many building products and insulation materials used in homes contained asbestos. Common products that might have contained asbestos in the past include floor tiles, cement sheet, millboard, popcorn ceilings, soundproofing materials, joint compounds, shingles, siding, roofing and countless other materials. If any of these materials are disturbed during renovations the asbestos fibers can become aerosolized and become an immediate and future health threat.

"*Few people realize that lead and asbestos can be in so many places in their home and that renovation projects can aerosolize the materials*," reported Joe Frasca, Senior Vice President, Marketing at EMSL Analytical. "*Carpeting in homes can act as a reservoir for these toxin laden dusts as the material settles. Each time the carpet is disturbed it can become re-aerosolized and it also acts as a hazard for young children who spend much of their time on the carpeting. What homeowners need to understand is that quick and affordable testing options exist to determine if materials contain lead or asbestos so that these hazards don't cause health risks to the current and future building occupants,*" he continued.

For more information on EMSL Analytical call (800) 220-3675 or www.emsl.com.

NIH: Immune cell plays dual role in allergic skin disease

In their recent press-release the U.S. Department of Health and Human Services' National Institute of Health discusses research that shows some of our immune cells can have a positive and negative effect on our health. A host of 'mast' cells are linked to allergic response known as 'atopic dermatitis', "*a chronic inflammatory skin disease that affects an estimated 10 to 20 percent of infants and young children.*"

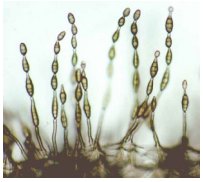
What researchers found was that some of these mast cells, when activated by an allergy trigger, "*may immediately extrude granule-associated mediators and generate lipid-derived substances that induce immediate allergic inflammation.*" But that was not all . . .

In addition to contributing to allergic inflammation researchers found that "*When they applied the same allergen to these mice multiple times, the reaction was considerably worse than in mice with sufficient mast cells,*" said Juan Rivera, Ph.D., NIAMS (the National Institute of Arthritis and Musculoskeletal and Skin Diseases) deputy scientific director and chief of the Laboratory of Molecular Immunogenetics. "*That tells us that although mast cells may participate early on in the development of the disease, it appears that they are suppressing the late stages of the disease or when the disease becomes chronic.*" That is because, during the later stages of the disease, the mast cells undergo changes that result in a different release of chemicals which help suppress those chronic disease-stages. "*What is unusual here is that the same type of cells that can be inflammatory, can also be regulatory*," said Rivera. So, "*While blocking mast cells has been considered as a treatment for the disease, it may be counter-productive, particularly in the latter stages of the disease,*" he continued.

A Mast Cell

"*Mast cells are found resident in tissues throughout the body, particularly in association with structures such as blood vessels and nerves, … Biological functions of mast cells appear to include a role in innate immunity, involvement in host defense mechanisms against parasitic infestations, immunomodulation of the immune system, and tissue repair and angiogenesis.*"
- NIH

This is particularly important given the prevalence of allergies in the U.S. Consider a moment that 54.3% of the population had positive test responses to one or more allergens (allergy triggers) and you get the picture. Of these 27.5% tested positive to dust mite allergens; 26.1% to the German cockroach; 18.1% to Bermuda grass; 17.0% to cats; and 12.9% to *Alternaria alternata* (a mold species).



Alternaria alternata

"*In general, we need a better understanding of the disease itself to develop better therapies for it*," said Rivera. "*The new study is an important step toward . . .*"

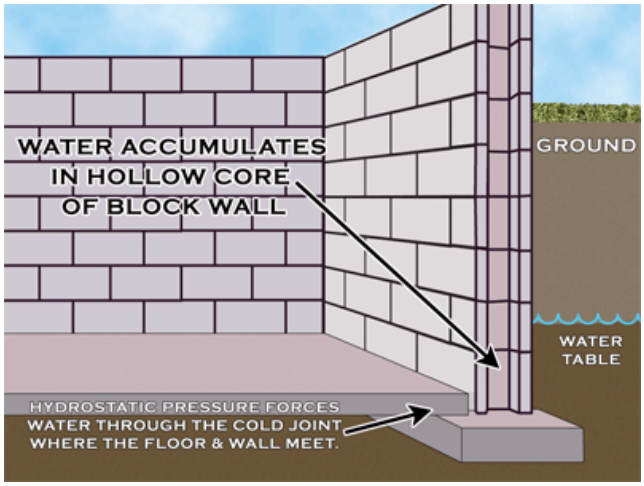
(continued on page 4)

Foundational Hydrostatic Pressure: What it is & does to your structure

In a recent discussion on our facebook page, the subject of hydrostatic pressure arose. In response to that discussion, we would like to share some basic facts about hydrostatic pressure and why it is so important to identify and correct early. Specifically in this article, we want to concentrate on water and the pressure it exerts on the sub-level structure in your home or office.

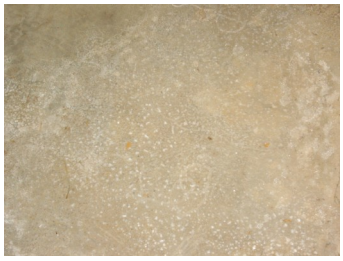
Hydrostatic pressure is a term referring to the pressure exerted on something by a fluid. To illustrate this, take an empty paper cup and begin to slowly fill it with water. Using your fingers, feel around the perimeter of the cup as you fill it. Do you feel the water pressure forcing the walls of the cup outward toward your hand? That is the static pressure you are feeling. As the water fills the cup it presses against the sides of the cup and, where the cup allows, it creates the sensation of that force you are feeling. As you add more water you sense more force, or pressure. Unless you do something to move the water (like drink it) the pressure stays the same—because the water is at rest against the walls of the cup.

The same thing happens around the foundations of our buildings. As water builds up around the walls and underneath the floors of our foundations the water creates a force against those surfaces with one major difference: Unlike our cup experiment, the walls and floors of our buildings are porous, by that I mean there are pores where water can travel from the resting water outside, through the walls and floors, and into our indoor environments.



This water infiltration can have multiple effects on the structure, including but not necessarily limited to:

- Increased humidity: As water travels through our floors and walls it comes to a point where it will seek equilibrium with our indoor air. At this point it will evaporate from the interior surface of our walls and floors and enter the ambient air, causing increases in the room's humidity.
- Eroding the foundation: As water running through a stream erodes rock so does the water running through our walls and floors erode our foundations, leaving behind something we call efflorescence. In the two upper pictures below you can see (picture on left) the efflorescence in the carpet, laid over the concrete basement floor, and (picture on the right) efflorescence in the concrete block walls of another basement. In the bottom pictures you can see how the water pressure has caused the wall to begin to collapse, another way hydrostatic pressure erodes the foundation.




- Contaminating our indoor environment: As water infiltrates our foundations it can contribute to microbiological contamination; it can bring in outdoor pesticides and parasites; it can bring in industrial wastes; and/or it can interact with building components to increase chemical off-gassing (something called volatile organic compounds). It may bring in its own gas as well.

So, it is extremely important that hydrostatic pressure is identified and corrected as quickly as possible. If it is not corrected, hydrostatic pressure can cause serious infections, damage, and/or compromise remediation efforts, leaving you with costly building repairs, remediation and/or failed remediation efforts. This is why Solutions Indoor Environmental Consulting always maps moisture in surfaces and in the air—so we can specifically consult you and your contractor through any effort you may be partaking toward actually remedying a situation. For more information on this or other topics of interest, contact us at (877) 624-7185 extension 1 or indianaiaq@solutionsiec.com.

Author: Jason Yost, CIEC, CMRS, CSDS, and CIES, is owner of SOLUTIONS IEC, and has been in the industrial hygiene, cleaning, restoration, remediation, mitigation, and IEQ industry for over nineteen years. Jason is a board member of the American Council for Accredited Certification (ACAC). To learn more about Jason's credentials visit the ACAC's website at www.acac.org. To discuss a training need for your company contact Jason directly at jasony@solutionsiec.com or (877) 624-7185 extension 1.

SOLUTIONS
Indoor Environmental Consulting

"Don't let problems with poor indoor air quality take control of your life. Empower yourself with SOLUTONS—Indoor Environmental Consulting—today!"

(877) 624-7185

SOLUTIONS IEC is a truly experienced business that, with over seventeen years of mitigation, restoration, remediation and hygiene practices, can assist you in determining the Category and Condition of the damaged structure; develop a protocol that is real and specific to the structure; and can provide expertise beyond just an inspector's role. Our staff of professionals have been recognized in both indoor environmental consulting (Council-certified Indoor Environmental Consultants) and microbial remediation supervision (Council-certified Microbial Remediation Supervisors) - two of the most prestigious awards in the industry today! Don't let poor IAQ take control of your life. Empower yourself with SOLUTIONS—Indoor Environmental Consulting—toady!

We're on the web!

www.SolutionsIEC.com

And

www.facebook.com/SolutionsIndoorEnvironmentalConsulting

Serving the Indiana and Illinois states!

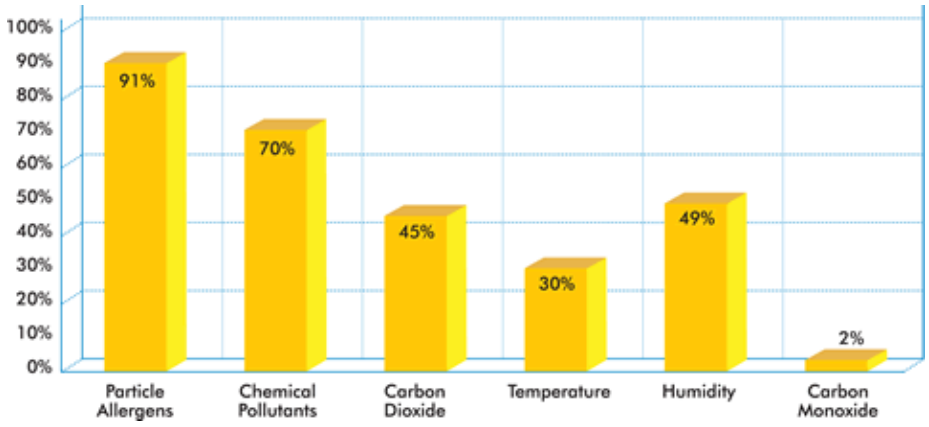
NIH: Immune cell plays dual role in allergic skin disease

(CONTINUED FROM PAGE 2)

". . . that end, providing researchers with a valuable new insight that could eventually lead to safer, more targeted treatments."

As with many other areas of medical care, the indoor environmental assessment and consultation industry is working hand-in-hand with researchers and doctors by providing valuable information on building science and providing indoor environmental audits in order to further knowledge about dose-response relationships (between us and our environments) as well as information on how to manage and control exposure to allergens in the built environment.

You can learn more about how Solutions Indoor Environmental Consulting can help you manage and control your exposure to allergy and asthma triggers by going to our website (www.solutionsiec.com) or calling for a no-obligation review of your case



(877) 624-7185 extension 1

You can learn more about NIAMS and this research by calling (301) 495-4484 or (877) 22-NIAMS (free call) or visit the NIAMS website at http://www.niams.nih.gov.

Author: Jason Yost, CIEC, CMRS, CSDS, and CIES, is owner of SOLUTIONS IEC, and has been in the industrial hygiene, cleaning, restoration, remediation, mitigation, and IEQ industry for over nineteen years. Jason is a board member of the American Council for Accredited Certification (ACAC). To learn more about Jason's credentials visit the ACAC's website at www.acac.org. To discuss a training need for your company contact Jason directly at jasony@solutionsiec.com or (877) 624-7185 extension 1.