



Photo provided by Connie Morbach of Santi-Air Inc. Connie Morbach of Santi-Air Inc. is suited up while testing moldy drywall in a basement after sump pump failure.

Local experts air on indoor contaminants

Improving air quality can improve health

By Christa Buchanan
C & G Staff Writer

A home is a haven; a safe, comforting place. That is unless potential health threatening contaminants are lurking within.

According to the Environmental Protection Agency, indoor air pollution is one of the top five environmental risks to public health: "Poor indoor air quality is about more than just comfort. It can cause or contribute to short- and long-term health problems, including asthma, respiratory tract infection and disease, allergic reactions, headaches, nasal congestion, eye and skin irritations, coughing, sneezing, fatigue, dizziness, and nausea."

"Over the last 15 years I've been doing air quality testing, I've learned people do get sick — I've been sick and I've seen how it affects others," said environmental scientist and nationally recognized IAQ expert

Tips for improving indoor air quality

Environmental scientist and nationally recognized indoor air quality (IAQ) expert Connie Morbach, M.S. CHMM CIE, and her team at Santi-Air Inc. have witnessed the adverse consequences of the cleaning habits of many well-intentioned homeowners.

To that end, Morbach has started a "CleanliNEST Crusade" to educate others about "the science of home cleaning" and to promote "Better Health through 'Heal' Estate: empowering us all to breathe easier and rest assured that our homes are a source of good health."

Following is a partial list of some of the common mistakes that people make when cleaning and organizing their homes that can lead to poor indoor air quality, and in turn, correlating health issues, including chronic allergies and asthma, among others.

- Storing items in cardboard boxes, which are high in cellulose content and easily absorb moisture. Damp cardboard and paper is virtual candy for mold and bacteria. Plastic bins are a much better option.

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Connie Morbach, owner of Clawson-based Sanit-Air Inc. along with her husband, Tom. “Physicians now realize biological contaminants (mold, lead, radon, volatile organic compounds, dust, etc.) in the home do affect health and cause not only asthma and allergies, but also chronic fatigue and neurological disorders like fibromyalgia.”

EPA studies have “found levels of about a dozen common organic pollutants to be two to five times higher inside homes than outside, regardless of whether the homes were located in rural or highly industrial areas.”

To that end, Morbach recently started a CleanliNEST Crusade to better educate the public on the potentially devastating effects of poor IAQ, as well as offer practical and affordable scientific solutions to indoor air problems: biological contaminants, including bacteria, mold, mildew, viruses, animal dander and cat saliva, house dust mites, cockroaches, and pollen; chemical contamination such as volatile organic compounds emitted from things like carpet, paint, glue, cleaning and beauty products; formaldehyde released from pressed wood products; and ventilation and moisture problems.

“Part of the inspiration behind it is that over the last 15 years I’ve been doing air quality testing. I usually get called when there’s a problem, after they get sick — most people aren’t proactive, they wait until something is noticeably wrong,” said Morbach. “Our goal is to identify a problem before it becomes a health crisis.”

Source control and ventilation
The good news, said Jacob Corvidae, green programs manager at WARM, Weatherization And Retrofit Maintenance, Training Center in Detroit, is most IAQ problems can be easily fixed by proactively controlling sources of the contaminants and keeping the home well-ventilated.

“The two biggest culprits are water, which causes mold, and poor ventilation. Those two things have the greatest impact on the indoor air environment,” said Morbach.

“Generally, the usual suspect in poor indoor air quality starts with moisture. Priority No. 1 is controlling water issues within the house because excess moisture can potentially lead to must and mold, which can lead to bigger problems if there’s water in the basement,” said Corvidae.

Fixing a wet basement can be as simple as regrading around the house and keeping gutters and downspouts clean and flowing away from the house; however, in some cases more expensive fixes, such as installing a new sump pump, may be required.

As moisture is also a big problem in kitchens and bathrooms, it is essential to run the vent fan when showering or cooking; if there isn’t a fan, Corvidae suggests getting

- Storing contents on basement floors. Raised shelving units are better in case a flood occurs.
- Storing items in the attic can also be problematic, as humidity builds in the winter and insulation dust can be an irritant when residents move things around.
- Stirring up dust without complete removal. Dusting horizontal surfaces with a dry cloth simply re-distributes the dust. This is also true of vacuuming with non-HEPA vacuums that simply trap large particles, but blow small ones into the air.
- Cleaning carpets with water-based methods without sufficient extraction and drying. This causes mold and bacteria, not to mention musty odors.
- Using incompatible cleaning products, such as mixing bleach and ammonia, that can produce toxic fumes.
- Failure to change furnace filters, which can cause the furnace to shut down because air cannot get through.
- Storage of combustible products near furnaces.
- Blocking return air vents with boxes or furniture. This can lead to poor airflow.
- Overuse of scented products that can trigger asthma attacks.
- Using volatile compounds to clean surfaces. I had a client whose cleaning lady used acetone to remove marks from a basement floor. The fumes were horrible and could have resulted in a fire if not discovered.
- Not diluting a product according to instructions. For example, if not diluted properly, Murphy’s oil soap leaves a difficult to remove residue and heavy odors.
- Using the wrong product for a surface. For example, ammonia on hardwood floors.

For more tips, visit Morbach’s blog, <http://cleanlinest.wordpress.com/>.

— Christa Buchanan

one installed or opening a window to let moisture out, especially in summer months.

“Humidity isn’t inherently bad. In the winter, keeping a home at 40 percent relative humidity is actually a bonus because it helps the house feel warmer, but in the summer, you want to keep humidity down — don’t let moisture levels get too high,” he said.

Other sources of moisture most people don’t think about, Morbach said, are icemaker leaks and condensation from window air conditioning units that aren’t properly maintained. Change the A/C filter regularly and make sure the water drainage to the outside isn’t running down the wall.

Regularly changing the filter on heating and cooling units has a twofold effect on air quality, she added: It prevents clogged drain lines, which can lead to water issues, and keeps the air flowing through the system cleaner — an increasingly important issue as homes are becoming more airtight due to stricter building regulations that began in 1978 and green building principles that focus on sealing a home’s air leaks.

“Green isn’t always clean. ... In the ‘70s, everyone was worried about heat costs going up, so they started tightening up building; then, in the ‘80s, we started seeing sick building syndrome,” Morbach said of the link between a building’s IAQ and illnesses.

In the past, she said, there were six air exchanges in an hour, but now it takes three hours for one air exchange: “It’s like living in a Ziploc baggie.”

“A lot of times, people keep their houses clammed shut tight all the time, but you really have to open up the house to get the air flowing sometimes,” said Corvidae, noting that opening windows on summer nights when it’s cooler can also save on energy bills.

Installing a fresh air intake on the furnace, or a heat recovery ventilator, can also help keep the air flowing, as newer homes also are built with materials like plywood, engineered wood and carpet that emit VOCs into the air.

Other potential contaminants are beauty and bath products and household cleaners; Corvidae and Morbach suggest using more natural cleaners, such as vinegar, peroxide, baking soda and mild soaps; however, as long as the room is well-ventilated and the products are being used according to the directions, most cleaners are OK, Morbach said.

“A recent study showed that asthma has increased by 42 percent in one decade, but there was a huge gender difference — a 29 percent increase for men and 82 percent for women — and they think that it’s because women have greater exposure to household chemicals,” said Corvidae, who suggests using more natural, organic products, such as essential oils, instead of chemically scented products.

To learn more about potential sources for contaminants and improving IAQ, visit the EPA’s website, www.epa.gov/iaq/.

For more information about WARM, to download a copy of “What Every Homeowner Should Know About Green Building,” a guide to the five basic principles — energy, air, water, materials and site integration — of green building and how green concepts and materials can be implemented, visit www.warmtraining.org.

For more information about Santi-Air and CleanliNest or to schedule an indoor air quality evaluation, visit www.cleanlinest.com, or call (248) 435-2088 or (888) 778-7324.

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