

Is Your House Safe for Your Family?



PHOTO COURTESY OF: PACES CONSTRUCTION CO.

An existing room healthy remodel, using all no-VOC stains, finishes and paints, cabinetry with formaldehyde free wood, existing paneling encapsulated in sealer and painted, low voc, low odor caulk and adhesive, limestone sealer on fireplace, Healthy carpet and drapes.

HEALTHY HOME BUILDING AND REMODELING

BY JOHN BEACH, CGP, CAPS, ECH, RRP

Buckhead resident Mary Lu Mitchell was beginning a small renovation last year of an area where her grandchildren play, when she thought about their future health. “I want to avoid toxic products when they start bringing in insulation, drywall, woods, stains, paints, etc. I have spent hours trying to figure out what to choose and what to avoid, but it is very technical and there is no Consumer Reports type of rating.” Builders and even industrial hygienists have the same problem Mary Lu had, trying to get actionable information on product contents, chemical ingredients, and their relative safety for use in building and remodeling our homes.

Why should we care? Your Home has a significant impact on your family, with Americans averaging over half of their life inside their home, and with many, like young kids, moms and the elderly, spending 70 percent or more of their time home. “Specific features that

constitute healthy housing include structural and safety aspects of the home, quality of indoor air and water, and the presence or absence of chemicals”, according to The *Surgeon General’s Call to Action To Promote Healthy Homes* released in 2009.

Structural issues in your home could be trip hazards like loose flooring, steep and uneven stairs with poor lighting, or lack of grab bars; falls at home account for a large percentage of home accidents and deaths for the elderly. Safety issues include fire items like smoke detectors, egress ability, and pool fencing; fires and accidental drowning are two more common home causes of death. Items like falls and fires have easily trackable statistics and we can “see” the results in our broken bones and burned houses.

Other home hazards like water and air quality and chemical exposure can seem like invisible threats since we can’t easily visualize them, and they seldom cause sudden death, but more

often shorten our lives and quality of life. The EPA says over 20,000 people die in the United States of lung cancer due to radon exposure in their homes each year, and that one in four homes have actionable radon levels. But no one can estimate how shortened a life is by radon, and how many people die from other diseases hastened on by radon exposure, because the data and studies don’t exist.

Many people are now familiar with mold, a common result of high humidity, darkness and low ventilation, and often found after water leaks. Mold is a good example of an environmental hazard that can affect people in very different ways. While some people might smell but not be sickened by mold in a room, a more sensitive person might get allergy or flu-like symptoms. Asthma now impacts almost 10 percent of the U.S. population, and its triggers are often hidden in our homes, which now cause 11 million physician visits a year



Kitchen All healthy, low or no VOC cabinets, countertop, caulk, adhesives, paints, etc.

and over \$30 Billion in costs to the U.S. economy.

What can you do when you suspect these kinds of problems? Donnie Mitchell, of Insite Environmental in Atlanta, has a checklist he uses when he first gets calls from people about Indoor Air Quality. About half the calls are about moldy odors, which correlate with his most common findings of water or high humidity and mold. He sees lots of clogged condensate lines on HVAC equipment, water incursion in occupied homes, and more recently humidity problems in foreclosures and bank-owned houses that have been closed up. Based on a site examination, he may come up with sampling strategy and test for specific molds or chemicals, or he may find an obvious problem or even an old bag of fire ant killer in the basement causing the odor. Donnie says he gets about an equal number calls for problems with old houses and new ones, and he thinks the public is becoming better educated about problems in their homes.

Over the last 30 years there's been an almost ten-fold increase in the number of scientific studies and peer-reviewed journal articles about Indoor Environmental Quality (IEQ), and the data shows some clear trends. The EPA now tracks about 250 chemicals commonly found in homes, many of which are carcinogens and cause cancer, others are toxic or have yet unknown properties. Quite a few of these studies have found health hazards clearly related to chemicals found in common building materials, especially glues in plywood

and cabinets, adhesives, preservatives, paints and finishes. The use of lead and mercury are now tightly controlled, and products like formaldehyde are getting a lot of attention for their negative side effects. A whole class of carbon-based chemicals called volatile organic compounds (VOC) are now getting lots of study, as well.

VOC's are a hot topic in the green building arena. Many people automatically equate green building and healthy homes, and there is a connection, but the two don't always coexist perfectly. Green building is primarily focused on resource conservation, and creating and installing products in the home that are healthy for our planet. Some products can be environmentally sound, but not healthy for homeowners, and other products can be a healthy choice but not good for the environment. Finding good compromises is not always possible, unfortunately.

Our air quality in our houses is typically about three times more polluted than outside air. The accepted solution for dispersing indoor pollutants is to ventilate our homes well, exchanging dirty inside air with fresh outside air. As we tighten up our houses to save more energy, and power plant emissions, we actually need to increase ventilation to keep from having air quality problems. There are energy recovery devices that help do this more efficiently, but many contractors are not using them. Some industrial hygienists expect this to be a major home health issue over the next few years.

As a custom home builder and remodel-

er in the Buckhead area, I've gotten lots questions over the last 10-12 years from upscale clientele about the safety of various building materials, especially paints, stains and cleaners that contain chemicals or have odors. But our company has also averaged one or two clients a year that are medically fragile, have children with asthma or allergies, or are elderly and may be hypersensitive to dust and other common construction contaminants. There're lots of older houses around Buckhead, so we are lead paint certified through the EPA and Georgia Environmental Protection Division to test and work on houses built before 1978 that may contain lead. Many Buckhead owners are "older" in age too, so we're Certified Aging in Place Specialist (CAPS), which helps minimize construction impact, especially for live-in remodels. And we're often updating these older houses to modern energy standards, so we are Certified Green Professionals (CGP) and an Earthcraft-certified builder. It turns out the combination of all these skills is just a basic starting point to build and remodel healthy homes. We still have to spend extra time researching how healthy products really are, and the best processes and sequences to use.

Today several groups are calling for an Environmental Product Declaration (EPD), a nutrition-label type disclosure that tells people what's in products, preferably with third party lab testing. EPD's differ from current MSDS safety sheets, which are designed to help workers handle industrial products and deal with emergencies like spills. A key industry buzzword is transparency, allowing builders and homeowners to see and understand what chemicals are included in products going into their homes, and what hazards and side effects they may carry.

That's really the first step in better understanding what our houses are all about. And how to build and raise our families in healthier homes. Most families still want a well-functioning home that works well for their lifestyle, and makes them happy.

Sources For This Article:

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