

Health Matters

Great Smokies Medical Center of Asheville

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Is Your Moldy Home Making You Sick?



We've all seen the dramatic footage on the evening news. An entire family finds themselves homeless, prohibited from entering their dream-home-turned-moldy-toxic-EPA-nightmare.

Could molds be putting your health at risk? For more and more people across the nation, the answer is yes.

More than 200,000 species of molds have long been associated with health problems, the most common of which include respiratory illnesses (coughing, asthma, and bronchitis) and skin problems (ringworm, athlete's foot and fungal disorders of the skin and nails).

Molds reproduce by releasing spores, which land on surfaces and thrive when the conditions are right: the right material combined with poorly ventilated, dark, warm, and moist environments.

Molds require organic matter (straw, soil, paper, dry wall, wood, food, leather, tile, natural fibers, etc.) for growth. They may be visible as green, black, orange, white, or gray discoloration, and may have a slimy or dry, fuzzy visible surface growth. Molds emit an unpleasant, musty odor.

Even more toxic than molds are 400-plus toxic chemical metabolites produced by mold called mycotoxins. The impact of one agricultural mycotoxin, *aflatoxin*, on humans and livestock is well researched. The Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) routinely monitor aflatoxin levels of crop foods. Produced by the mold *Aspergillus flavus* that infests many crops including corn and peanuts, aflatoxin causes liver and kidney toxicity and is a known potent liver carcinogen.

Indoor molds and mycotoxins that result from tighter, energy-efficient residential construction practices are also a concern. Such practices cause decreased air exchange, trapped moisture, and recirculation of contaminated air.

Between 1993 and 1998, physicians in Cleveland saw an unprecedented 37 cases of pulmonary hemorrhage in infants. Nearly all required intensive care and artificial ventilation for breathing difficulties. Because the symptoms recurred when the infants were returned

to their homes, researchers suspected that something in the homes was responsible for their symptoms.

Centers for Disease Control and Prevention (CDC) researchers found evidence that the homes were contaminated with *Stachybotrys chartarum*, a mold known to produce numerous mycotoxins. *Stachybotrys*, called "black mold," requires low nitrogen, high cellulose materials for its growth. Dry wall, paper, dust, lint, fiberboard, and wood are thus ideal substances for *stachybotrys*' growth. Researchers hypothesized that mycotoxins from *stachybotrys* contributed to the respiratory ailment that ultimately resulted in the deaths of 12 of the infants. Varying susceptibility of individuals who are exposed and the volatile nature of mycotoxins make their study difficult.

Symptoms of *stachybotrys* exposure result from immune system suppression: coughing up blood, non-traumatic nosebleeds, memory loss, cognitive changes, hair loss, sore throat, infections, muscle aches, nausea, rashes, headache, mood disorders, and fatigue. (cont. p. 2)

Are Pesticides and Herbicides Bugging You?



Three legged frogs. Bluebird eggs that don't hatch. Infertile male alligators with female reproductive organs.

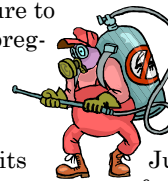
Futuristic headlines? Afraid not. The lyrics "Birds do it, bees do it, even educated fleas do it . . ." may be relegated to a time when they could do it.

Pesticides and herbicides belong to a group of chemicals called "endocrine disruptors" that interfere with hormone biochemistry. Their effects go beyond the red eyes, burning skin, nausea, and dizziness routinely experienced with acute pesticide exposures. The developing fetus is especially vulnerable to pesticides.

Fetal or maternal exposure to pesticides

is statistically linked to cancer risk in childhood and later in life. Exposure to pesticides and herbicides during pregnancy should be strictly avoided.

Researchers have found that DDE, a breakdown product of the banned pesticide DDT, has found its way into almost all living tissue, where it disrupts the function of reproductive hormones in mammals. Wildlife studies of infertility and physical abnormalities of gulls, deer, birds, fishes, frogs, whales, porpoises, alligators, and turtles link environmental contaminants with disturbances in the production or action of sex hormones.



In 1996 in Idaho, the National Agricultural Statistics Service (NASS) reported that more than 30 million pounds of pesticides, herbicides, and fungicides were used on 410,000 acres of potatoes.

Judith Hoy, an animal rehabilitator from the Bitterroot Wildlife Rehabilitation Centre in Montana, examined 254 accident-killed and injured male deer. Regardless of age, approximately 33 percent were normal; the remaining 67 percent showed varying degrees of apparent genital developmental anomalies, specifically mispositioned and undersized scrota and testes, rendering the deer (cont. p. 2)

Molds, cont.

Many other molds affect indoor air quality. For example, *Cladosporium* is a common indoor and outdoor mold that grows on paint, textiles, plants, soil, and the fiberglass liners of ductwork. It is allergenic and a well-known cause of asthma. Chronic exposure may contribute to emphysema.

Several species of *Aspergillus* are suspected carcinogens and contribute to fungal nail infections, ear infections, kidney and liver disease, and aspergillosis, a serious fungal lung infection.

To determine if your house is making you sick, take a weeklong trip to a non-moldy environment and see if your symptoms decrease. The answer may be apparent only upon the return of symptoms when re-entering your home.

Seek the opinion of a certified environmental specialist before making costly remediation decisions, keeping in mind that the best solution may be relocation. If necessary, consult a physician who understands the roles molds play in health problems.

What's Up, Doc?

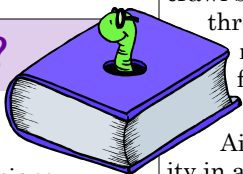
Our GSMC staff has been busy teaching and learning.

Dr. Wilson lectured to physicians, educators, and parents on the treatment of autism at the Center for Autistic Spectrum Disorders (CASD) Workshop in Kansas City. He will lecture on the same topic again in early May at the Autism One Conference in Chicago.

He will also meet with senators and representatives in Washington, D.C., in early May to address autism at a congressional hearing sponsored by the Subcommittee on Human Rights & Wellness.

Pam Shuler attended the Clinical Metal Toxicology and Basic Chelation Therapy Workshop. Cynthia Wisehart attended Dr. Sherri Tenpenny's Sensitivity Removal Technique training that treats allergies and intolerances. Both courses were presented at the American Academy of Environmental Medicine (AAEM) Instructional Courses in Kansas City.

Dr. Wright's summer calendar includes an intensive week-long practicum in clinical neurotransmitter therapy, in addition to the 11th Symposium on Functional Medicine that focuses on advances in metabolic treatment of diabetes and Syndrome X.



Tips to Prevent Mold Growth

Thoroughly inspect any home for mold contamination before buying it. Mobile homes are particularly vulnerable to mold growth.

Treat mold contamination by addressing conditions that support mold growth: lack of ventilation, darkness and, especially, moisture.

Ventilate high moisture areas: the kitchen, bathrooms, and laundry. Use fans to exhaust moisture from the laundry, bathroom, and kitchen to the outdoors, not the attic or crawl space.

Insulate windows and doors, pipes, walls, and attics to prevent condensation. Dehumidify basements and other damp areas to attain 50-55 percent relative humidity.

Provide ample drainage of water around the foundation of a home by using drain tile and rain gutters, backfilling the foundation, and sloping the land away from the house. Install vapor barriers and assure adequate cross ventilation in crawl spaces. Because water seepage through concrete and cement block may be imperceptible, avoid flooring and wall covering that prevent evaporation of moisture.

Air conditioning reduces the humidity in a home. Molds grow best between 77-86 degrees Fahrenheit, though they



can grow at temperatures as low as 32 and as high as 95 degrees. Open closets to air condition (and dehumidify) them when you are not home. Keep clutter (old shoes, books, rags, etc.) at a minimum. Keep condensation trays for dehumidifiers, refrigerators, and air conditioners clean to prevent mold growth.

In the event of a flood, spill, or leak, clean up the water within 24 hours and use dehumidifiers, fans, and ventilation to thoroughly dry wet areas. Determine and correct the cause of the flood or leak, when possible.

To prevent mold growth and to clean up a moldy area: Keep it clean, keep it dry, air it out, and disinfect it. Some believe that stachybotrys-contaminated penetrable materials such as wood cannot be adequately treated by surface disinfecting. Therefore removal, disposal, and replacement of such molded materials may be required. Severely affected homes may be permanently uninhabitable.

Remove and replace heavily contaminated materials. Clean surfaces with a stiff brush and hot soapy water and rinse with clean water. Then use a 10 percent bleach solution to clean surfaces. Allow to dry thoroughly. **Do not mix bleach with ammonia.** Use good ventilation and respiratory and skin protection when using any cleaning solutions.

Pesticides, cont.

unable to reproduce. The deer also exhibited other signs of poisoning: reddened eyes, the inability to digest food, and emaciation. Researchers link these abnormalities in male deer to the interference with male hormones resulting from contact with pesticides and herbicides.

A direct hit of pesticide or herbicide is not required. Drift of agricultural chemicals accounted for 44 percent of reported pesticide and herbicide poisoning cases in California during the mid 1990s, according to California's Department of Pesticide Regulation.

A class of chemicals called chlorophenols or dioxins are especially damaging. One of them, Agent Orange, the herbicide used as a defoliant in the Vietnam War, kills plants by causing sudden uncontrolled plant growth (similar to cancer) for two weeks before the foliage dies.

It's a good thing people have escaped the fate of wildlife, right? Afraid not. In

addition to congenital defects and infertility, human pesticide exposure has been linked with Parkinson's disease; myasthenia gravis; prostate, testicular, and breast cancers; leukemia; lymphoma; asthma; thyroid disorders; and chronic fatigue. Seems we have met the enemy and, no surprise, it is *us*.

What can you do? Don't depend on pesticide manufacturers or companies who apply them for information about toxicity. Seek out less toxic solutions or less toxic methods of pesticide application. If the entire city of Toronto can implement a ban on the unnecessary use of pesticides (as they did in 2003, supported by 72 percent of the city's residents), so can you in your little corner of the world. Check out GSMC's website, gsmcweb.com for links to more pesticide information.



All content in this newsletter is intended to be informational and is not to be taken as medical advice or to replace medical care.