

# HEALTH

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## ATTACK OF THE MOLD

Some people are allergic to molds and suffer mild respiratory symptoms. In others, mold can trigger asthma attacks. Those with weakened immune systems may contract mold-related infections. But more exotic symptoms—including bleeding lungs, confusion and other mental problems—have not been firmly linked to mold.

Mold forms in areas that are damp and where there is little air circulation, like under sinks and inside walls where a pipe is leaking. Remove the source of moisture and you kill the mold. Most mold-related lawsuits charge builders or contractors with flaws that create persistently wet conditions where mold thrives.

*Stachybotrys* (above), the infamous black mold, produces mycotoxins. But it's not clear whether or how they expose people to additional health risks.

# Tales About Rampant Toxic Mold Get Plenty of Attention, but Science Tells a Less Dramatic Story

By CHRISTOPHER WANJEK  
Special to *The Washington Post*

In the fictitious horror movie "Attack of the Killer Mold," a creeping pathogen that starts out as a little dot in the corner of the utility room turns into a seething green-black slime that soon consumes the entire house. Hapless householders who breathe in the killer's spores collapse into paroxysms of wheezing and spend the rest of their shortened lives in intensive care.

Brave men in protective moon suits cart away mold-laden rugs and floorboards before crews begin rebuilding the house, brick by brick, plank by plank. And before the credits roll, the evil corporation responsible for the mold is brought to justice and made to pay not only punitive damages but the plaintiffs' legal costs, too.

Like most Hollywood creations, this is a story based

more on hype and fantasy than fact. Nevertheless, it's playing in a courtroom near you.

Several things about molds and health are well-known. Some molds growing in homes and buildings trigger allergic reactions and asthma symptoms in some people. A smaller group of people, including those with compromised immune systems, are susceptible to lung infections caused by inhaling mold spores.

And a small group of molds does produce toxins.

But the impression that toxin-producing molds are rampant and more virulent than ordinary molds—an impression created by some news reports and on the Internet, often on sites operated by companies that sell mold tests, cleanup systems or legal services—is not supported by evidence. In fact, according to those who have studied the issue, there is little conclusive evidence that mold toxins in the home or office (as op-

posed to an overabundance of ordinary mold) can cause serious harm to humans.

"Mold is everywhere," said Gailen Marshall, director of the Division of Allergy and Clinical Immunology at the University of Texas Medical School at Houston. "For most, mold is a mostly ignored part of their lives. For some with mold allergies, the smell can cause nasal allergy or even asthma symptoms. Yet what is increasingly clear is that their mold-related illness has nothing to do with toxic substances produced by molds."

That is, airborne mold spores, much like pollen, dust or animal dander, trigger allergic reactions. But mold toxins, however potentially harmful, never get into the body in high enough levels to cause harm.

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These mycotoxins, secreted by a dozen or so mold species, are known to be deadly to animals that ingest them in large amounts (typically while feeding on stored hay or grain). Very few cases of toxic mold inside homes have been shown to cause serious human health problems, and they usually involve someone who ate very old food laced with toxic mold, according to the Centers for Disease Control and Prevention (CDC) and the Environmental Protection Agency (EPA).

Several widely publicized cases of "killer mold" have drawn headlines in part because real toxins are involved; in reality, they involve vast growths of ordinary mold, too:

- Entertainer Ed McMahon filed a \$20 million lawsuit against his insurance company and contractors after a broken pipe in his Beverly Hills mansion left widespread mold growth that allegedly sickened him and his wife and killed his dog, Muffin.

- A jury awarded \$32 million in damages after mold took over a Texas family's mansion.

- After mold caused \$600,000 worth of damage in her new home, activist-cum-celebrity Erin Brockovich lobbied for California's Toxic Mold Protection Act last year.

Although rampant mold growth in these cases may have caused illnesses, scientists have been unable to show a clear link between some of the more frightening reported symptoms, such as memory loss and internal bleeding, and breathing in mold toxins. Three recent large reviews of the medical literature found no support for the claim that toxic mold levels in the home or office can lead to chronic or life-threatening health problems. These independently funded reviews were conducted largely to educate health care professionals and industrial hygienists about mold exposure. A fourth study is now underway by the Institute of Medicine for the CDC.

Mold is by no means always benign. The most recent of the completed reviews, conducted in part by Norman King, an epidemiologist for a Montreal regional public health board, found a strong association between mold and respiratory problems, such as exacerbation of asthma. Scientists cannot rule out the possibility that mold levels cause more serious problems, King said, but no link has yet been demonstrated. Doctors at the Mayo Clinic in Rochester, Minn., independently concluded that molds may be responsible for a majority of sinus infections in the United States.

Yet the validity of the 1994 case that largely started the toxic mold scare—eight babies in Cleveland

hospitalized with bleeding lungs, thought to be from toxic mold exposure—is questionable, according to the CDC. Further investigation found discrepancies in mold sampling from house to house, as well as no evidence that the internal bleeding wasn't caused by other factors, such as a viral infection.

For now, the mantra of the health community is to clean up mold, regardless of its type, and to fix leaks and quickly dry or remove water-damaged materials so that mold won't spread.

## It's Everywhere

Mold is the stuff that can turn a lemon into something that looks like a Chia Pet, even in the safety of your closed refrigerator. Some cheeses and beers rely on mold for their earthy tastes. We live with so many molds, according to the EPA, that it has not been possible to identify which ones might make us ill.

Toxins from mold—such as those from an infamous black mold called *Stachybotrys*, which is often cited in lawsuits as causing grave harm to human health—are not readily airborne, and are therefore not likely to be breathed in. Even if the toxins piggyback on spores, it's nearly impossible for them to enter the human body in large enough quantity to cause illness, according to Coreen Robbins, an industrial hygienist with Global Tox Inc., a firm based in Redmond, Wash.

Robbins, who participated in a review of the Cleveland case for the CDC, said that *Stachybotrys* often grows below floors and behind walls, and we are unlikely to breathe in its toxins because they cling to mold and dust particles. The mere presence of toxic mold, according to Robbins, is no indication that the air contains mycotoxins.

"This is a fairly complex topic, so it is ripe for a bit of bamboozery," Robbins said. Cottage industries have sprung up overnight to test for and clean up toxic mold. She said newly minted "mold consultants" are participating in what "is like a huge hoax." While common sense tells us we should clean up moldy stuff indoors, Robbins said, removing floorboards, walls and ducts upon detection of a few *Stachybotrys* spores is often unnecessary. There are no exposure standards for mold and mold toxins, she added, and the point at which mold exposure becomes a health threat is unknown.

## The Mold Rush

Nevertheless, insurers are being inundated with mold claims, which cost them more than \$1.2 billion for repairs and litigation last year, according to the Insurance Informa-

ance Group, which is appealing that \$32 million judgment in Texas, paid \$85 million for mold claims in 2001. The III says about 10,000 mold-related lawsuits are pending nationwide, a 300 percent increase since 1999.

"This is the classic progression of first the hype, then the fear and then the big awards," said John Sweeney, a Baltimore lawyer with the firm Miles & Stockbridge who defends class actions and mass con-

ma, Burge said. Common allergenic mold species are likely present in your home now, maybe clinging to the back of that mushy wallboard under your sink. Mold also increases the risk of infection in people with compromised immune systems, according to the CDC.

Yet there are simple ways to keep mold growth in check. "If one does have mold in the home," Burge said, "panic should not be the first response."



BY NICH PETERSON/REUTERS/AGENCE FRANCE PRES

**Activist Erin Brockovich is among those claiming to suffer from toxic mold.**

solidations of toxic torts. He said that people often look for someone or something to blame for health problems with no known cause and that insurance companies don't always act swiftly and cooperatively when dealing with their clients' fears, even if they are unfounded. Also, jurors are naturally sympathetic to the notion that the home should be a place of safety and refuge.

"Frankly, insurance companies too often act like insurance companies," Sweeney said. "If builders and insurance companies aren't sensitive [to mold concerns], then they are provoking people to bring claims to justify their own fears."

Sweeney said that plaintiffs often win their cases with the argument that mold growth was exacerbated by the insurance company's or builder's actions, but not on proof that mold made the plaintiff sick.

### **A Mold Too Far**

Mold only becomes a health issue when there is too much of it, said Harriet Burge, a mold expert at Harvard School of Public Health and the chair of the committee conducting the new review for the CDC. And that "too much" threshold varies from person to person.

Mold is a member of the fungi kingdom, which includes mushrooms, mildew and yeast. Mold spreads to new areas by releasing spores, analogous to a plant's seeds. Breathing in certain mold spores, particularly in high num-

Molds thrive on moisture. Removing the moisture kills the mold and ensures that new mold doesn't take hold. Exhaust fans in the bathroom and the kitchen, or an open window, can help dry surfaces before mold can spread. A solution of bleach and water will kill mold. Mold will not consume a house unless there is a constant supply of water allowing it to spread.

Mold may grow in places you cannot see, but "there are a lot of clues if you pay attention," said Burge. For example, if you encounter a musty smell when you enter your house or basement, then there's likely to be an excessive amount of mold. Mold grows easily on fabrics and cellulose material, such as newspapers, cardboard, wood and the paper covering of drywall.

Somewhere there is excess moisture keeping this material wet, perhaps from flooding, a leaky pipe, poor ventilation or seepage through the walls of a basement.

Thus, there is certainly a place in this world for mold consultants and mold removal, according to Robbins. It's just that some consultants may take advantage of the current fear and loathing, and some businesses and schools might attempt to remove all mold (which is technically impossible) for fear of a lawsuit.

The worry over "toxic" mold is "way out of hand," said Marshall, an allergist who routinely meets with patients frightened and sometimes angry that they have "toxic

mold disease, a term that has no medical meaning.

The Houston-based Marshall is at ground zero of the toxic mold scare. That \$32 million lawsuit—brought by a family in Dripping Springs, Tex.—has made toxic mold a household word across the state. (Mold in Dripping Springs? Who would have guessed?)

Last year's floods in Houston and recent floods in other parts of Texas have heightened the fear. And mold, folks are thinking, is the cause of all their ills, Marshall said.

"I don't doubt for one second that most of these people are ill," said Marshall. "But there is no evidence that those individuals are getting toxic amounts of spores."

Toxic poisoning from mold won't sneak up on you, according to Robbins. Very moldy conditions are needed, and extremely large amounts of mold particles have to get into the air before you even begin to breathe in enough mold to get a toxic dose. The mold will trigger symptoms such as allergies or eye irritation long before you reach a toxic dose.

There is no conclusive evidence that mold is more prevalent today than in previous periods, according to the CDC. Many health experts have their suspicions, though, particularly in schools and office buildings. One thought is that cost-cutting in construction and maintenance have led to situations where moisture builds up or damage goes unrepaired, according to the EPA.

There are few studies of mold prevalence, so reports are anecdotal. However, a nationwide EPA

study found that 40 percent of the office buildings inspected had active water leaks.

In New York's East Harlem section, old homes and leaky apartment buildings are rife with mold, and this may be an underlying cause of the sharp rise in asthma rates there, said Suzanne Gaynor, an assistant professor in the Department of Community and Preventive Medicine at Mount Sinai School of Medicine.

"These buildings were never built to last," Gaynor said. Also, people stay indoors more often now. Thus, the combination of old, leaky buildings and folks exposed to the mold for longer periods might be contributing to the perception that mold is more common and more noxious today.

California's Toxic Mold Protection Act, with its key directives of setting indoor mold exposure limits and devising standards for mold assessment and removal, became law this year. However, many health experts contend that such limits will be difficult to determine, considering the sheer abundance and variety of molds and of people's reaction to them.

Mold is certainly not a new problem. The Book of Leviticus instructs that for perpetual mold and mildew, the house "must be torn down, and its stones, its wood and all its plaster must be carried out of the city to an unclean place."

More proof, if you need it, that some lawyers read the Bible. ■

*Christopher Wanjek is a frequent contributor to the Health section.*

## Mold Information

**W**hile heavy mold growth does not inevitably cause bad health, it is nevertheless a health risk that should be remedied. The Environmental Protection Agency (EPA) recommends that rugs or items of furniture that weren't quickly and thoroughly dried after becoming soggy be thrown out.

The EPA also recommends cleaning all indoor surfaces where mold accumulates. The agency does not generally prescribe testing for the type of mold in your home, because testing is usually costly and the results are often difficult to interpret.

If you smell mold, feel ill and are worried that mold might be harming your health, visit an allergist to be tested for mold allergies, advises Gailen Marshall, director of the Division of Allergy and Clinical Immunology at the University of Texas Medical School at Houston.

**For more information, see:**

- A Brief Guide to Mold, Moisture, and Your Home:  
[www.epa.gov/iaq/molds/](http://www.epa.gov/iaq/molds/)
- American Academy of Allergy, Asthma, and Immunology:  
[www.aaaai.org/patients/allergic\\_conditions/molds.stm](http://www.aaaai.org/patients/allergic_conditions/molds.stm)
- Asthma and Allergy Foundation of America:  
[www.aafa.org/templ/display.cfm?id=232](http://www.aafa.org/templ/display.cfm?id=232)

**Elsewhere in The Washington Post:**

The Washington Post's Home section began a two-part series on handling household mold last week (Sept. 12). The story is available at [washingtonpost.com](http://washingtonpost.com) on the Home and Garden page.