

Great Home Design

Is Your House Making You Sick?

Air Purifiers, Antibacterial Countertops, Nontoxic Bedding, and Other Products Promise to Make Your Home Healthier

BY GRETCHEN COOK

It took almost ten years before Pam Rothstein—a doctor—decided her house was making her sick. “I couldn’t even carry a laundry basket upstairs,” says Rothstein, who quit her career in emergency medicine to cope with the fibromyalgia and chemical sensitivities she developed after moving into a newly built Darnestown home in 1987.

Research by Rothstein uncovered potential dangers lurking in her house, from the water she drank to the chemicals in her carpet, drapes, paint, and bedding. Even her electrical wires could be toxic.

Four and a half years ago, Rothstein got to work building a healthier home, becoming a pioneer in a trend that is catching on fast. She recruited Montgomery County builder Andy Rosenthal, who agreed to take the American Lung Association’s Health House training program and produce an 8,000-square-foot home in Potomac.

Rothstein worked alongside Rosenthal, researching materials and testing each one that went into the house for anything that might trigger her chemical sensitivities.

Today Rothstein, 53, says she’s 90 percent cured of her ills; her husband Bob’s back problems are gone; her teenage son’s attention deficit disorder has abated; and her two daughters are supremely healthy.

Rothstein figures the special features—such as coated wiring, sealed drywall, and nontoxic paints—added 10 percent to the building cost, but she figures she can make it back on any future resale.

Multiple-chemical sensitivity is a heightened reaction to substances that causes symptoms ranging from respiratory ailments to depression and anxiety. The cause, the prevalence, and even the existence of this and other disorders like fibromyalgia—a musculoskeletal pain and fatigue disorder—is subject to debate. But the growing consensus is that the flood of new chemicals

introduced into the environment every year is making people sick.

“We’re on that edge where everybody is starting to realize, ‘I want to be healthy,’ and pretty soon everybody’s going to get proactive,” Rothstein says.

According to *Consumer Reports*, sales of air purifiers jumped 70 percent between 2000 and 2002. Interest is also booming in nontoxic materials and health-promoting gadgets.

CLEARING UP THE AIR

We spend as much as 90 percent of our time indoors, where, according to the American Lung Association, the air can be worse than it is outside. Some 50 million Americans suffer from asthma and allergies.

As yet, there is no whole-house system for combating air pollutants. Furnace filters can deal with the problem at the intake level. Because particles from things like pollen, mold spores, and bacteria do the most harm, the finer the filter the better. The most effective are high-efficiency particulate air filters that remove submicron particles. Filters can also come armed with bacteria-killing chemicals or an electrostatic charge that captures pollutants. Air ducts can be equipped with electronic air cleaners, but the devices may produce ozone, a known lung irritant.

Room air purifiers can combat airborne pests already trapped in homes, including dust mites, pet dander, bacteria from cooking fumes, toxins from cleansers, pesticides, and gasses from carpets and paint. There are hundreds of room units on the market, priced from \$40 to thousands of dollars.

Quality depends on the fineness of the filter, the square-footage of the air circulated, and the clean-air delivery rate, which should be at least eight to ten room volumes an hour. Some purifiers rely only on filters, while others use negative ionization and ultraviolet light. UV is preferred, as it does not create ozone as ionization sometimes does.

Health organizations are reluctant to recommend air purifiers, citing the lack of research on their effectiveness. Steve Millett, with the Battelle technology research firm in Columbus, Ohio, says you pretty much have to be a rocket scientist to sort through them.

“There’s a lot of schlock out there,” he says. For example, Sharper Image’s Ionic Breeze air purifier is a top-seller and boasts several approval stamps, but *Consumer Reports* gave it a “poor” rating in its October 2003 issue.

Consumer Reports’ top-rated models for professionally installed purifiers on heating/air systems were the Aprilaire 5000, Trion SE 1400, Trane Perfect Fit

TFE210A9FR2, and Honeywell F50. Best scores for room air filters went to Friedrich C-90A, Kenmore 83202, Whirlpool AP45030H0, and Bionaire BAP 1300.

The American Lung Association recommends cleaning air ducts, but the group cautions that doing so can stir up dust in the house, which should then be cleaned out with a good airing and vacuuming. The group also suggests changing filters frequently, vacuuming and sweeping regularly, and improving ventilation by simply opening windows and turning on fans. Roof vents can also be installed fairly inexpensively.

Banning toxins is another approach. Health-conscious homeowners are opting out of natural gas—believed to aggravate chemical sensitivity. They're ripping out carpets, which can trap pollutants and toxic fumes. Carpets, paints, wood treatments, drapes, and bedding are increasingly available in nontoxic versions—void of substances linked to carcinogens or other poisons.

Other hazards can be found in some building materials such as drywall, which is commonly made out of recycled newsprint. Rosenthal sealed Rothstein's drywall because she is allergic to materials in newspaper. Instead of mixing recycled motor oil into concrete foundations as some homebuilders do, he used Price Club cooking oil.

Vinegar, baking soda, salt, and other ingredients are healthy and inexpensive alternatives to toxic cleansers.

CLEANER WATER

Outbreaks of waterborne disease are on the increase. An estimated 7 million people become sick and more than 1,000 die in the United States each year from waterborne microbes.

As with air, there's a wide array of water purifiers on the market. The most basic include filtered water pitchers, which remove lead and chloroform and are sufficient for most people's needs. But quality ranges from poor to excellent, and, ironically, the plastics can leach toxins into the water.

Pipeline-intake and under-sink water filters are more efficient and will improve the taste of tap water; reduce rust, sediment, and chlorine; and protect your appliances from corrosion. Some systems use magnets as a water-softening alternative to harmful salts. Ice makers can also be fitted with purifiers.

The *Consumer Reports* January 2003 issue gives the best marks to the Pur and Brita carafes, the GE and Pur faucet-mounted units, and both Kenmore's and Omni's under-sink and intake models.

Some filter labels tell you how fine a particle the filter captures; look for filters that weed out particles less than one micron in diameter. The NSF International is a good seal of approval to look for.

Machines that add minerals and oxygen to drinking water are also catching on. Rothstein swears by a countertop system, made by the 30-year-old Japanese company Nikken, that oxygenates water. Claims for drinking oxygenated water are that it may enhance brain function for better memory and concentration, and may be more hydrating.

AROUND THE HOUSE

Now that you're breathing—and drinking—easier, you can worry about your electricity. High-tension lines have been linked to cancer, and it is recommended that homes be built no closer than 350 feet from such power lines.

Rothstein's home is safe on that front. She also has extra coating on her home's triple-twisted wires to reduce the potentially carcinogenic electromagnetic charge. There's a metal-mesh shield in the ceiling over the basement electrical panel. She substituted wood studs for metal to prevent electromagnetic charges.

Health-conscious homeowners are also buying cutting boards and countertops treated with bactericides and have found that silver and copper are naturally sanitizing. Silver-ion coatings keep handles and faucets germ-free.

On the cutting edge of wellness technology are materials that radiate far-infrared rays, the part of the sun's invisible spectrum that can penetrate deep into human tissue. Such materials have been widely used in Japan for years and are gaining respect here as germ-zappers and a remedy for ailments such as arthritis and fibromyalgia. They're popping up in everything from heating systems to saunas and can even be woven into textiles. Rothstein's family sleeps under far-infrared therapy comforters (manufacturers include Nikken and Thermoflow) and on mattress pads filled with magnets, which some people claim to have pain-relieving properties.

Most homeowners won't go the distance Rothstein has, nor do they necessarily need to, says Steve Millett of Battelle. "Be concerned but don't get panicked," he says. ❗

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