



Awareness of gases such as radon may be relatively new, but concern about indoor air quality isn't.

As director of the Montana chapter of the Healthy Indoor Air for America's Homes program, Michael Vogel, of Bozeman, Mont. (pop. 27,500), knows a thing or two about clean air. In fact, his first experience helping others improve their indoor air quality happened more than 20 years ago after *Good Morning, America* aired one of the first big news stories about dangerous gases present in some homes.

"At the end (of the segment), they told people if they wanted more information, they should call their extension service," says Vogel, who also works for the Montana State University Extension Service. That meant phoning in his office soon were ringing off the hook—and the flood of questions he fielded back then laid the groundwork for Montana's Healthy Indoor Air program, which he started in 1995.

Awareness of gases such as radon may be relatively new, says Vogel, but concern about indoor air quality isn't. "Harriet Beecher Stowe wrote an article on the importance of fresh air and ventilation back in the 1800s," he says. The difference today is that experts know more about the risks, so when concerned citizens come calling, people like Vogel can help. Here's an overview of some of the

most common indoor pollutants, as well as some simple ways to clear the air in your home or workplace.

Radon
This colorless, odorless gas is produced from the natural breakdown of uranium in rock and soil. The U.S. Environmental Protection Agency estimates that one in 15 homes across the nation accumulates enough radon to reach or exceed dangerous levels. The gas often seeps into homes from the soil, but deep private wells also can pump up radon along with water. Living and working for years in high levels of radon gas can cause lung problems. In fact, the American Lung Association estimates ra-

don is the second leading cause of lung cancer, after smoking.

Clear the air: Vogel and the ALA recommend that every home, as well as workplaces and schools, be tested. You can get an easy-to-use radon test kit at your local hardware store, or at large retail stores such as Target. Reducing a home's radon levels often is as easy as sealing cracks in floors, walls and the foundation.

Carbon monoxide

Gas furnaces, fireplaces, or wood or coal stoves built before 1985 are more likely to have problems with carbon monoxide than later models. But this colorless, odorless gas can be present anywhere that fuel-burning appliances aren't properly vented or aren't working correctly. Over-exposure to carbon monoxide can cause nausea, sleepiness and confusion in adults and can be even more dangerous for small children and babies. At extremely high levels, carbon monoxide can be fatal.

Clear the air: It doesn't take much to avoid tragedy, Vogel says: Just make sure your house has a carbon monoxide detector; you can buy one for \$20 to \$60 at most stores that sell smoke detectors.

Volatile organic compounds

The distinctive odors produced by new carpets, paint and plywood furniture aren't just a sign of home renovation. They also can indicate that your indoor air contains volatile organic compounds, known as VOCs. One of the most common VOCs, formaldehyde, may be best known for its use in embalming fluid, but it's also often used in the glue in particleboard and plywood furniture. Exposure to formaldehyde or other VOCs can make breathing difficult and can lead to coughing, rashes, and eye, nose and throat irritation.

Clear the air: Buy products that are VOC-free. If that's not possible, try to make sure that new carpets are aired out for a few days before they're installed and that rooms with new furniture,

cabinets, paint and carpets are adequately ventilated.

Second-hand smoke

Even when filtered through an air purifier, second-hand smoke can affect nonsmokers. In children, exposure to the smoke has been linked to childhood asthma, higher rates of ear and sinus infections, and sudden infant death syndrome.

Clear the air: Second-hand smoke is the easiest indoor air pollutant to eliminate: If you must smoke, don't smoke inside.

Dust and allergens

Rural homes and workplaces have a particular disadvantage when it comes to dust and allergens, Vogel says, because their air is likely to have more pollen, road and field dust, and animal dander—all of which can trigger asthma attacks or make lung diseases such as chronic obstructive pulmonary disease worse.

Clear the air: Keep windows closed during times when dust and pollen are high. To check the levels in your area, visit www.pollen.com and click on your state. ★

Story by Maggie Koerth-Baker of Minneapolis.



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