



INDOOR AIR QUALITY

We spend a lot of time indoors, approximately 90 percent of our lives according to the U.S Environmental Protection Agency. And the air we breathe when we're inside - whether we're at home, work, or out and about - can have tremendous effects on our health.

Research has linked health impacts to many characteristics of indoor environments, such as moisture, airborne volatile organic compounds, allergens, particulates, radon and combustion byproducts, including carbon monoxide and nitrogen oxide. These impacts can be both immediate and long-lasting, so understanding indoor air quality and the common pollutants can greatly reduce your and your home's risk. Three specific players that can turn indoor air quality from comfortable and healthy to dangerous and expensive to fix include mold, carbon monoxide and radon.

MOLD

Mold is a common air quality culprit. Though there is not one single way it affects our health, some molds can be highly toxic, whereas others cause reactions only in people with conditions like asthma or specific allergies.

The health symptoms of mold growth include eye, nose and skin irritation, dizziness, fatigue, respiratory diseases and possibly even cancer. In addition to these health effects, mold can also weaken your home's walls, ceilings and floors. It can survive practically anywhere, and if left untreated, mold spores can reproduce and cause more extensive damage.

Unfortunately, mold can be tough to pinpoint since it often grows in areas that are difficult to see; however, if you identify a health issue due to mold or notice an unpleasant smell, there are two main things to do:

- Figure out the source of excess moisture. The presence of mold indicates the presence of excess moisture. Locating the source of that moisture may be straightforward, such as identifying a leaking pipe, an unvented heater or an exhaust fan that doesn't work well. Other times, a combination of factors may be at play and make finding the source more complicated. In this case, hiring a specialist may be warranted.
- Quickly clean the moldy area. The more recent the growth is, the easier it will be to clean up - the process usually just entails scrubbing with water and detergent. However, if the mold has rooted into the drywall causing extensive damage, walls may need to be replaced. Consider installing fiberglass-covered drywall rather than the traditional paper-covered drywall. Though this material is more expensive, it is less likely to support mold growth in the future.

There are several ways to control the moisture in your home to avoid mold growth. Make sure bathroom and kitchen exhaust fans work correctly, are used when needed and are ducted all the way to the exterior skin of the home. If you have a vented crawl space, the ground should be covered with a thick plastic, or consider a closed crawl space system. An oversized air conditioner can also be to blame for moisture. Make sure to have a proper load calculation done to determine the right sized unit for your house.

CARBON MONOXIDE

Known as the “silent killer,” carbon monoxide is an odorless, colorless, tasteless gas that is formed when fuels burn, such as gasoline, kerosene, oil, propane, wood, coal and natural gas. Whenever these fuels are burned to create power or heat, carbon monoxide is produced from the reaction. Examples of sources include space heaters, grills, clothes dryers, furnaces, water heaters and car exhausts.

Carbon monoxide is responsible for numerous health problems, most often causing flu-like symptoms that clear up after leaving the space. However, if exposed to a high concentration for too long, it can result in loss of consciousness or even death.

Building code officials recognized that carbon monoxide poisoning is avoidable in most circumstances, and now many building codes require that new homes have a carbon monoxide detector. If your home does not have one, however, there are several types available online and at local stores.

Here are some helpful tips from the Centers for Disease Control and Prevention to stay safe:

- Have your heating system, water heater and any other gas, oil or coal-burning appliances serviced by a qualified technician every year.
- Install a battery-operated carbon monoxide detector in your home, and check or replace the battery when you change the time on your clocks each spring and fall. If the detector sounds, leave your home immediately and call 911.
- Go to an outdoor fresh air space and seek prompt medical attention if you suspect carbon monoxide poisoning and are feeling dizzy, light-headed or nauseated.
- Do not use a generator, charcoal grill, camp stove, or other gasoline or charcoal-burning device inside your home, basement or garage.
- Do not run a car or truck inside of a garage attached to your house, even if you leave the door open.
- Do not burn anything in a stove or fireplace that isn't vented.
- Do not heat your house with a gas oven.
- Do not use a generator, pressure washer or any gasoline-powered engine less than 20 feet from a window, door or vent.

RADON

Like carbon monoxide, radon is odorless and colorless, making it a very dangerous pollutant. It is a naturally occurring radioactive gas that is emitted when uranium decays, and it finds itself trapped in buildings after seeping through soil and groundwater below, where it accumulates.

The concern over the presence of radon in homes and buildings stems from research showing an association between radon and lung cancer. Though a far smaller risk than smoking, radon is the second leading cause of lung cancer. The CDC and National Cancer Institute estimate that there are more than 150,000 lung cancer deaths per year in the U.S., and that 15,000 to 22,000 are related to radon exposure.

Fortunately, radon exposure can be reduced as people test and fix their homes. Testing is easy and inexpensive. A short-term radon test typically requires assembling the test in the appropriate location and mailing it in for analysis within a certain number of days. If your test detects a problem, it can be a relatively affordable home repair – comparable to installing an exhaust fan. You will want to find a certified radon mitigator to perform the work.

Most importantly, don't assume your home is in the clear because of its location or age. Testing for radon is essential, and if a problem exists, understanding and addressing it will reduce future health risks.

The buildings we live in can affect our health in many ways, and indoor air quality continues to be of critical concern. Knowing the risks and remedies and keeping an eye on excess moisture and mold, carbon monoxide and radon will help make sure you, your family and your home are safe and comfortable.

This article was provided by Advanced Energy, a nonprofit energy consulting firm. For more information, visit www.advancedenergy.org.

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