

Indoor Air Quality:

Sources and Effects on Our Health



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The EPA estimates that we spend 90% of our time indoors, in homes, schools, workplaces, places of worship, or gyms. Research shows that indoor air pollution is increasing. Our air quality is affected by chemicals, gases, and particles from products used or naturally found inside buildings, inadequate ventilation, and moisture and humidity problems. The home is the most likely place you are exposed to indoor air pollution.

Developing an understanding of indoor air quality (IAQ) and identifying factors that impact the air you breathe while indoors will empower you to make decisions about how you can improve your indoor home environment.

What do you think of when you hear the term “air quality”?

Many people think of outdoor air pollution such as smog, smoke, and vehicle exhaust. But what about indoor air quality?

According to the Environmental Protection Agency (EPA), “Indoor Air Quality refers to the air quality within and around buildings and structures, especially as it relates to the health and comfort of building occupants.”



Indoor Air Quality Problems

The main causes of indoor air quality problems are contaminants that release gases or particles into the air:

- Tobacco products and secondhand smoke,
- Radon,
- Burning wood,
- Mold,
- Dust, pet dander, and hair,
- Volatile organic compounds (VOC) found in household cleaners, dry cleaning, hobby supplies, etc., and
- Pesticides.

Household items that may impact your indoor air quality:

- Heating and cooling systems, air conditioning units, gasoline-powered heaters, and other appliances,
- Fireplaces and woodstoves,
- Cooking appliances, and
- Building materials and furnishings.

Impacts of Poor Air Quality on Health

Indoor air pollution can cause symptoms such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue. It might also cause, aggravate, or worsen asthma and allergies. It can also make it more difficult to fight off infections. Air pollution can also cause long-term health problems such as respiratory diseases, heart disease, and cancer.

How Can We Improve Indoor Air Quality?

To improve or avoid any health symptoms, work to improve your indoor air quality. Controlling the source of pollution is the most efficient way to do that. An easy way to do this is to make sure your home has proper ventilation. Increasing the amount of air that exchanges between inside and outside will keep your air cleaner.

Here are some ways to make sure your home gets proper ventilation:

- Open windows and doors (weather permitting). Keep windows and doors closed when outdoor air quality is an issue (wildfires, other health hazards, etc.).
- Use window and attic fans (weather permitting).
- Use bathroom and kitchen fans, especially if they are vented outside.
- Consider an air cleaner. They come in different types and sizes ranging from tabletop models to whole-house systems. Do some research to see if one is right for you.



To keep the air inside your home or office cleaner:

- Vacuum and dust often.
- Wash bedding regularly.
- Do not allow anyone to smoke or vape indoors. Adopt a smoke-free home and car. Ask people who use tobacco to go outside at least 20 feet from entryways, windows, and vents.
- Safely store chemicals away from children and pets.
- When taking a shower, use a ventilation fan.
- Dry any damp surfaces.
- Maintain and ventilate appliances and heating or cooling units. Change your air filters regularly especially in times of outdoor smoke events (e.g., wildfires).
- Use nonchemical products when possible.
- Seal all cracks in basements.
- Test for radon every two years. If your radon number is at or above 4.0 pCi/L, contact a certified radon measurement and mitigation professional to lower exposure to radon.

New home designs are adding features to bring outdoor air through the HVAC system.

Do House Plants Improve Air Quality?

There is no direct evidence that having houseplants cleans indoor air. In fact, houseplants may contribute to indoor air pollution by releasing VOCs into the air. Additionally, the plant's soil may have bacteria, pesticides, or other contaminants. Overwatering plants can cause microorganisms to grow, which can affect people with allergies.

There is no way to totally rid your indoor air of pollutants, but by following these steps, you can reduce potential exposure to these risks.

Improving indoor air quality requires an understanding of what contaminants are affecting the air you breathe in your home. Once you have identified the contaminant source, take appropriate action to eliminate or mitigate the source. Sometimes, improving air quality is as simple as opening windows or doors. Sometimes, you need expert assistance to effectively improve the air quality.

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