

Indoor Air Quality

Indoor Air Pollution and Health Effects

EPA studies show that concentrations of volatile organic compounds are consistently higher indoors (up to ten times higher) than outdoors.

How can this be? There are many reasons, some of which were discovered only recently. They include invisible assassins like radon and CO₂, as well as gas-emitting chemicals like formaldehyde used in making modern carpeting, drapery, household cleaners, furniture, and building materials. There are also common airborne pollutants such as pollen, viruses, dust and dust mites and damp areas where standing water can breed mold, mildew and other microbes.

Much of this problem is attributed to the way modern homes are built—for purposes of energy efficiency, and to be as air-tight as possible. The consequence is that stale air, laced with odors, chemicals, irritants – even minuscule insects – often becomes trapped in modern homes, where it circulates over and over.

Health effects from indoor air pollutants may be experienced soon after exposure or, possibly, years later.

Immediate effects

Immediate effects may show up after a single exposure or repeated exposures. These include irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue. Such immediate effects are usually short-term and treatable. Sometimes the treatment is simply eliminating the person's exposure to the source of the pollution, if it can be identified. Symptoms of some diseases, including asthma, hypersensitivity pneumonitis, and humidifier fever, may also show up soon after exposure to some indoor air pollutants.

The likelihood of immediate reactions to indoor air pollutants depends on several factors. Age and preexisting medical conditions are two important influences. In other cases, whether a person reacts to a pollutant depends on individual sensitivity, which varies tremendously from person to person. Some people can become sensitized to biological pollutants after repeated exposures, and it appears that some people can become sensitized to chemical pollutants as well.

Certain immediate effects are similar to those from colds or other viral diseases, so it is often difficult to determine if the symptoms are a result of exposure to indoor air pollution. For this reason, it is important to pay attention to the time and place symptoms occur. If the symptoms fade or go away when a person is away from home, for example, an effort should be made to identify indoor air sources that may be possible causes. Some effects may be made worse by an inadequate supply of outdoor air or from the heating, cooling, or humidity conditions prevalent in the home.

Long-term effects

Other health effects may show up either years after exposure has occurred or only after long or repeated periods of exposure. These effects, which include some respiratory diseases, heart disease, and cancer, can be severely debilitating or fatal. It is prudent to try to improve the indoor air quality in your home even if symptoms are not noticeable.

While pollutants commonly found in indoor air are responsible for many harmful effects, there is considerable uncertainty about what concentrations or periods of exposure are necessary to produce specific health problems. People also react very differently to exposure to indoor air pollutants. Further research is needed to better understand which health effects occur after exposure to the average pollutant concentrations found in homes and which occurs from the higher concentrations that occur for short periods of time.

Indoor Air Quality Solutions

Air quality is the least thought of factor when it comes to selecting HVAC equipment for the home, yet it is one that will affect your health and comfort the most. Humidity, air freshness and air purity all greatly affect your ability to stay healthy and to enjoy your home's environment.

You owe it to yourself to learn more about your air quality options:

- Media Air Cleaners
- HEPA Air Cleaners
- Dehumidification Systems
- Electronic Air Cleaners
- Bypass Humidifiers
- Steam Humidifiers
- Ultraviolet Treatment Systems

Vortex Climate Control can identify the important issues and provide a solution tailored to your specific needs.

Let Vortex Climate Control help you breathe easier in your home!