

Invisible Dangers in You New Home That Most Heating Contractors Won't Tell You

According to the United States Environmental Protection Agency (EPA), people spend up to 90% or more of their day indoors, with much of that time taking place at home. At the same time, the EPA ranks indoor air pollution among the top five environmental dangers to the public and identifies it as one of the leading health risks today. They estimate the pollution levels indoors could be two to five times higher than the pollution levels outdoors. Here are just a few of the dangers and health risks:

1. Formaldehyde gas leaches out of laminate beams, particle wall board, carpet padding and fibers, laminate floor glue, wood finishes, wall insulation, and wall paint. This offgassing typically lasts for 7 years. **SYMPTOMS:** Significant eye and nose and respiratory irritation, skin rash, premature discoloring of silver, brass, and other metallic objects in home,
2. High humidity from cooking, laundry, showering, and occupants provide the perfect climate for fungi spores. **SYMPTOMS:** Nasal inflammation and secretions, hayfever, and Asthma.
3. When you operate your hood fan, bathroom exhaust fan, or dryer, and the home has no ventilation, you are drawing in outside air under doors and through ceiling lights into your home to make up for the air that is sucked out by these fans. This is the most polluted air.
4. Humans shed up to 400,000 skin cells a day. These cells, along with other bioeffluents, are emitted from the human body by respiration, movement, and bacterial decomposition on the skin. They are made out of hundreds of VOC's (volatile organic compounds). They are actually the source of body odor.
5. As dust and debris during construction builds up in the duct work, the homeowner is not aware of the blast of pollution coming their way, when they move in and start up the system.
6. Typical media paper filters collect a small amount of dust, while the rest recirculates through the home and into your lungs. Remember, there are only two filters in your home – the furnace filter and your lungs. In the meantime, the dust on your filter is full of bacterial off gassing VOC's and endotoxins.
7. Endotoxins are perhaps the most unknown to the public, but injections of small amounts in human volunteers has been shown to produce fever, decreases in blood pressure, inflammation and coagulation. Endotoxins are, in large part, responsible for the dramatic clinical manifestation of infections of the pathogenic (suffering) type. When your filter or your ducts are loaded up with dust, endotoxins are present.
8. Since dust is constantly seeking a place to settle and air temperature is trying to divide hot from cold, it is recommended that the fan on your furnace blow continuously to resolve this. However, this may use up to \$424 of power per year, unless you have the right kind of energy saving motor which earns \$24/year. If you

open your windows in the winter, you bring in mold. Open in the Spring and Summer, you bring in pollen and dust. So, it's best to use your fan to ventilate.

9. Also, most heating contractors install fiberglass insulation in the ducting to keep the sound down, but this releases thousands of fiberglass particles into the air you breathe, and is not safe. But without this fiberglass liner, the sound travels through the ducts and customers complain.
10. Ducting and furnaces located in the garage allow air infiltration. When the car is coming or going, it produces carbon monoxide. This is drawn into the furnace system and then into the home. Carbon monoxide is toxic at any level. Recently in the news, a family of 5 died of carbon monoxide poisoning because the furnace in the garage pulled car exhaust into the home and poisoned the occupants.

Water, food, and shelter are often thought of as the basic necessities for survival. But without the air you breathe, those other items become irrelevant. Take a moment and consider how many breaths you take in a day, hour, or even a minute!

The quality of indoor air has deteriorated over the last 30 to 40 years, and it has occurred because of how homes are now constructed. Today, homes are sealed much tighter, so air cannot escape. Air inside your home stays warm in the winter and cool in the summer. "Tight homes" are more energy efficient, but they also lock in allergens, toxins, and infectious agents.

To reduce the number of these agents inhaled, the EPA and American Lung Association suggest ventilating your home with fresh air and using indoor air quality (IAQ) equipment. IAQ products maximize your home's safety and comfort. They shield your family from harmful pollutants that can infest your indoor air:

Doctors and health experts suggest you should drink approximately two quarts of water every day to maintain optimum body conditions. In response, over \$7 billion and climbing is spent on bottled water. By comparison, you inhale approximately 15,000 (or more) quarts of air each day. While drinking clean water is absolutely important, shouldn't breathing clean air be important to maintain a healthy lifestyle?

Solutions to Most Indoor Environmental Problems

1. Ventilation from the outdoors processed through the filter.
2. Photocatalytic filter installed into the return air ducting to purify and sterilize your air.
3. Constant fan operation on an energy star-rated furnace.
4. Central vacuum system that vents to the outside.
5. Squirrel/cage type fans (not propeller type) used for hood fan over cooking surface, and all bathroom vents.
6. Not operating furnace system during construction.

Sources: *EPA*
 The News
 IAQ Handbook
 Lennox Industries