



Breath of Fresh Air: *Indoor Air Quality*

Dr. Uwaya Erdmann, ND

We inhale, we exhale: every minute of every day of our lives. Sometimes faster, sometimes slower - whether running or sleeping - there is an exchange taking place between you and the Earth's atmosphere. Just to sustain life, every person exchanges between 10,000 and 70,000 liters of air daily. That's a lot of air!

What about air quality? Industry and society are responsible for outdoor air quality. But who is responsible for indoor air? And why is this important to health and wellbeing? Toxins in food and water have been extensively researched, but air quality issues are now being viewed on par with smoking risks in the past - a major determinant of health.

Long ago, our ancestors spent most of their time outside. Today the average person spends over 90 percent of their time indoors. Indoor air has been found to contain 2-5 times (sometimes as much as 100 times) more contaminants than outdoor air. It's considered to be one of the most serious environmental threats to human health according to WebMD, although there are few studies about this issue.

There are both short-term and long-term effects of poor air quality, including asthma, allergies, and other respiratory problems, headaches, eye and skin irritations, sore throat, colds and flu, memory loss, dizziness, fatigue and depression. The effects of highly toxic airborne particles can show up years later in conditions like heart disease, respiratory disease, reproductive disorders, sterility and even cancer.

Here are some easy ways to improve indoor air quality:



Open your windows! And let the fresh air in - recommended 30 minutes daily. For us northern climate dwellers, an air purifier may also be appropriate. Proper ventilation is key to quality indoor air.

- Outdoor shoes track dust, pollen and pesticides into the house, so try leaving them at the door
- Avoid paraffin wax candles and smoky incense, and switch to soy or beeswax candles
- Avoid chemical cleaning products (side effects are dizziness, nausea, sore throat, etc). Try green cleaning products, or cheap

alternatives like vinegar and baking powder

- Open the window or run a fan when taking a shower to inhibit toxic mold formation.
- Replace vinyl furniture and shower liners with nylon, cotton or other natural fabrics to avoid toxic off-gas of vinyl chloride.
- Try an eco-friendly dry cleaning service to avoid carcinogenic (cancer causing) solvents. Whenever possible hang these clothes outside before hanging them in the closet.



- Wash bedding weekly and hang your laundry outside for fresh laundry. Avoid using dryer sheets or scented detergents.
- Use low or no VOC paints in your home, and lots of ventilation if you're painting.

Consider these common pollutants:

MOLDS: caused by water damage and high humidity. Common molds are *Aspergillus* (a primary food for dust mites), *Stachybotrys*, and *Penicillium*.

BIO-AEROSOLS: such as airborne bacteria and viruses.

Carried by humans, pets, moist surfaces, humidifiers, and ventilation systems.

FORMALDEHYDE: From pressed wood products (hardwood, plywood, fiberboard, etc.) urea-formaldehyde foam insulation, mattresses, clothing, nail polish, permanent press textiles, glue and adhesives, stoves, fireplaces, automobile exhaust

VOLATILE ORGANIC COMPOUNDS (VOC'S): paints, solvents, wood preservatives, aerosol sprays, cleaners and disinfectants, copy machines/printers/faxes, carpets, moth repellents, air fresheners, dry cleaned clothes, hobby supplies

PHthalATES (plasticizers): vinyl flooring and furniture, food packaging, shower curtains, wall coverings, adhesives, detergents, personal care products, toys, PVC pipe

PESTICIDES: pest control poisons, lawn and garden chemicals.

RADON (a radioactive gas that comes from uranium): Building materials such as granite, well water, soil, outside air, smoke detectors, certain clocks and watches. Radon is the second leading cause of lung cancer in the US.

Immune System and fresh air!

We often think that staying indoors in the winter, where it's warm and cozy, protects you from colds and flu. But winter air is dry, whether indoors or out, so it pulls moisture from cough and sneeze droplets and allows them to remain airborne longer. Dry air also dries out your nasal passages, creating micro-cracks which viruses and bacteria easily invade, causing an infection.

A 2010 Appalachian State University study showed that walking outdoors briskly for 30 to 45 minutes a day five days a week during the winter resulted in fewer illnesses compared with people who stayed indoors. This is partly due to the increase in immune function, but also because you get a break from indoor germs and toxins.



➤ A Japanese study showed that interaction with nature reduces depression, promotes healing, sparks creativity and increases life expectancy (by 15% over 5 years in a Japanese study). A Swedish study revealed that people who run in a park instead of on a treadmill or through city streets feel more restored.

Outdoor activity is especially important for kids, who spend 7 hours more on academics and 2 hours less on sports and outdoor activities weekly than kids of 20

years ago. Children who spend more time in green spaces have lower stress levels, more success in school, and fewer ADHD symptoms. And for people of all ages, exposure to sunlight triggers Vitamin D production, good for healthy bones, immune system and a potent cancer fighter.

To vitalize your body and mind, fill your lungs with fresh air, indoors and outdoors, and breathe fresh oxygen to deliver to all the cells of your body. Pure air is the most important factor for life. You can live a few weeks without food, and a few days without water, but it is nearly impossible to survive even a few minutes with oxygen - the breath of life!

Oxygen is essential for the process of combustion taking place in all the various cells of the body. It is the most important factor for life. You can live for a few weeks without food and water. But it is nearly impossible to survive even for a minute or two without Oxygen.

We obtain the oxygen from the air. When we inhale, oxygen of the air dissolves in the blood flowing through the fine capillaries in the lungs, and is thus carried to every cell in the body. Carbon dioxide and other toxic substances are formed in the cells as the end products of combustion and other processes. This Carbon dioxide gets dissolved in the blood. When this impure blood carrying carbon dioxide reaches the lungs, carbon dioxide is released into the air present in lungs, and is exhaled with it. In short, the blood gets purified in the lungs. This is the reason to breathe deep to keep yourself healthy.

Oxygen is the most abundant chemical element, by mass, in the Earth's biosphere, air, sea and land. The main source of oxygen on the earth is trees and plants. Plants and trees take up carbon dioxide from the air for their nutrition and growth, and release oxygen into the air. The proportion of oxygen in the atmosphere is, therefore, depends upon greenery. There is better oxygen level in the areas with lots of trees and plants. So you will feel fresh, breathing air in areas with lots of greenery. The cool breeze of early mornings, being fresh, pure and rich in oxygen, purifies the blood and the body, and feels fresh. The effects of fresh air on the body, mind and health is well known.



Here are some *Key Points* to Remember:

Always take deep breaths: this helps to eliminate Carbon Dioxide. Do some Yoga which has great deep breathing techniques. In the winter, protect yourself from the cold wind, using warm coverings but keep the windows open so that fresh air can enter; do not cover your face while sleeping. Always breathe through your nose! The hair in your nose performs the function of a filter, removing the fine dust particles in the air. Moreover, the air gets warmed up in passing through the nasal passages, which is good for the lungs.