



What's in the Air You're Breathing?

Spring/Summer 2007
Premiere Issue!

Bi-Annual News from Air Care & Restoration Co, Inc... to help you *Breathe Easy*

Indoor Air Quality in the Lehigh Valley

Most agree that the Lehigh Valley offers its residents a good quality of life. One quality of life measurement that the Allentown-Bethlehem area consistently rates poorly in its air quality. The Asthma and Allergy Foundation of America (AAFA) ranked the Lehigh Valley as the 10th worst area for allergies in the U.S. This is no secret to the area's residents

and visitors who are greeted with runny noses, coughing, itchiness, sneezing and other allergy symptoms brought by spring. While residents are willing to compromise the Lehigh Valley's poor air quality for the other benefits of Lehigh Valley living,

they do not have to compromise the quality of air they breathe indoors.

"There is no other activity that we do more than breathe," says Keith Roe owner of Air Care & Restoration Co., Inc. in Bethlehem. "The average person takes 23,000 breaths a day and spends 80% of their time indoors but doesn't realize that they are breathing air that may be contaminated. People don't realize that indoor air pollution exists and the quality of air we breathe directly affects our health." The questions many people ask are usually the same.

What is indoor pollution? Indoor air pollution is comprised of three parts: chemical, particulate and microbial. Chemical pollutants are generated from cleaning products and building materials, particulate arise from smoke and dust and microbial contaminants include bacteria, viruses and spores from fungal colonies.

How does it affect our health? The American Medical Association attributes

poor indoor air quality to be direct cause for a third of the country's national health bill. The effects of indoor air pollution range from temporary issues like allergy-like symptoms to permanent conditions that may affect the body's vital organs.

What can be done to improve indoor air quality? Roe says companies like his can visit buildings, collect air sample and analyze the samples at

a laboratory to identify if and what chemical, particulate and microbial contaminates exist. Depending on which contaminates are present and how extensive the problem, systems can be put in place to restore air quality. These systems

range from a few hundred dollars for a small single room purifier to a thousand dollars and up for whole house systems that work with the HVAC system. HVAC systems are good for filtering air, but they do not purify the air.

However, the air duct system, when properly cleaned, can be used as an excellent whole house air purification device. When a whole house clean air system is properly designed and installed in your system, *you will see and feel the difference - We Guarantee it!*

For more information, Keith Roe of Air Care & Restoration can be reached at 610-865-8090 or visit our website at www.aircareonline.com.

For information on air quality issues, visit www.epa.gov/iaq/pubs/index.html, www.osha-slc.gov/SLTC/indoorairquality/index.html, and www.allergyactionplan.com.

Excerpted from Lifestyles Over 50 magazine, Lehigh Valley, PA

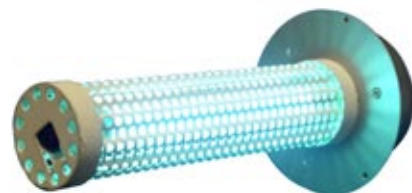
What's New: Amazing Technological Breakthrough

Air Care and Restoration Co. presents **The Guardian Air by RGF™**. The Guardian Air is designed to eliminate sick building syndrome risks by reducing odors, air pollutants, VOCs (chemical odors), smoke, mold, bacteria and viruses with Photohydroionization (PHI) Technology. The HVAC-PHI Cells are easily mounted into air conditioning and heating system air ducts where most sick building problems start. When the HVAC system is in operation the HVAC-PHI Cell creates an Advanced Oxidation Process consisting of Hydro-peroxides, ozonide ions, super oxide ions, UV light rays and hydroxide ions, all "friendly oxidizers" — oxidizers that revert back to oxygen and hydrogen after the oxidation of the pollutant.

30 Day Money Back Guarantee!

These units must be installed in a clean air duct system for best performance.

NO OZONE!!!



RGF's PHI™ Cell

Call Air Care at 610-865-8090 and receive \$100 savings off the installation of any size RGF™ PHI Cell!

What's New, *cont.*

KEY AIR PURIFICATION DESIGN FACTORS



Whole House Systems

"We develop your home into a safe haven for you and your family. We guarantee our systems will function as designed." - Keith Roe, Certified Indoor Environmentalist and owner of Air Care & Restoration, Inc.

Filtration — Hospital Grade Filters

Did you know that Air Care & Restoration Co. carries all filters you use in your HVAC systems, and sells them for less than local centers?

Call us at 610-865-8090 to ask us about getting a year's supply shipped directly to your home. Save money on filters and no driving worries!

On the Homefront/Workplace

How Home and Workplace Affect the Air You Breathe

Indoor pollution sources that release gases or particles into the air are the primary cause of indoor air quality problems in homes. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out of the home. High temperature and humidity levels can also increase concentrations of some pollutants.

There are many sources of indoor air pollution in any home. These include combustion sources such as oil, gas, kerosene, coal, wood, and tobacco products; building materials and furnishings as diverse as deteriorated, asbestos-containing insulation, wet or damp carpet, and cabinetry or furniture made of certain pressed wood products; products for household cleaning and maintenance, personal care, or hobbies; central heating and cooling systems and humidification devices; and outdoor sources such as radon, pesticides, and outdoor air pollution.

The relative importance of any single source depends on how much of a given pollutant it emits and how hazardous those emissions are. In some cases, factors such as how old the source is and whether it is properly maintained are significant. For example, an improperly adjusted gas stove can emit significantly more carbon monoxide than one that is properly adjusted.

Some sources, such as building materials, furnishings, and household products like air fresheners, release pollutants more or less continuously. Other sources, related to activities carried out in the home, release pollutants intermittently. These include smoking, the use of unvented or malfunctioning stoves, furnaces, or space heaters, the use of ozone generating air cleaners/purifiers, the use of solvents in cleaning and hobby activities, the use of paint strippers in redecorating activities, and the use of cleaning products and pesticides in housekeeping. High pollutant concentrations can remain in the air for long periods after some of these activities.

If too little outdoor air enters a home, pollutants can accumulate to levels that can pose health and comfort problems. Unless they are built with special mechanical means of ventilation, homes that are designed and constructed to minimize the amount of outdoor air that can "leak" into and out of the home may have higher pollutant levels than other homes. However, because some weather conditions can drastically reduce the amount of outdoor air that enters a home, pollutants can build up even in homes that are normally considered "leaky."

Read more about what steps to take both to reduce the risk from existing sources of indoor air pollution and how to prevent new problems from occurring in *The Inside Story- A Guide to Indoor Air Quality*.

Source: www.epa.gov

Buyer Beware: Air Purifiers That Emit Ozone Can Dirty The Air

Indoor air purifiers that produce even small quantities of ozone may actually make the air dirtier when used at the same time as household cleaning products, scientists at UC Irvine have discovered. This research appeared in *Environmental Science and Technology*.

— .004 ppm is considered excessive! —

Ozone emitted by purifiers reacts in the air with unsaturated volatile organic compounds such as limonene – a chemical added to cleaning supplies that gives them a lemon fragrance – to create additional microscopic particles, scientists found.

High levels of airborne particles can aggravate asthma and cardiovascular problems, and have been linked to higher death and lung cancer rates. Excess ozone can damage the lungs, causing chest pain, coughing, shortness of breath and throat irritation.

Source: www.sciencedaily.com

Mold, The New Issue

Why is Mold a problem today?

Mold has been receiving a lot of attention due to the vast amounts of sickness and lawsuits that have been created. But, mold has just not started to cause problems today.

Since the 1970's, when there was a shortage of oil, home construction has changed dramatically. It is now common practice to heavily insulate homes, wrap the exterior with a vapor barrier, and create less ventilation from the outside air. This can cause the potential for mold growth if there is a water event. According to statistics from the Bureau of Census, 35% of homes are damaged due to water or moisture yearly. During the building process, a new home is repeatedly saturated with rain or snow soaking into the wooden members and finish materials. With the wood, cellulose, and other organic materials used in buildings, this now provides a fertile platform for mold.

What do I do now?

Environmental Solutions Association (ESA) realizes the problems that are faced by the builders, realtors, home owners, and home buyers, and have set standards and protocols for mold inspections. There are different inspection services that are offered by the Certified Mold Inspector.

Levels of Inspection Service

The different levels of inspection services that have been formed are endorsed by ESA and are used in the mold inspection standards and protocols used by the Certified Mold Inspector. These services range from an inspection that is requested in a specific client defined area, to an inspection that can produce mold mediation specifications. All of the services have a clear understanding and written explanation, within the inspection agreement, of what will be inspected.

Limited Sampling: The purpose of Limited Mold Sampling is to detect the presence of mold contamination in client

defined areas of the home. This service provides a fast economical method to determine if and what type of molds are in that defined area. The limitation of this service is that other sources of mold may be present in the home.

Mold Screen: This level of inspection utilizes a visual assessment of the entire home, identifies "red flags" for mold, and a limited sampling for mold. If "red flags" are found, the client will be advised and offered the chance for additional sampling. The Mold Screen Inspection is the most popular inspection service for home sale transactions.

Mold Survey: The value of this service is that it identifies, determines cause

and provides corrective measures for all mold sources discovered in the entire home. This service is mainly used once a problem has been identified and remediation specifications are needed to be produced by the Certified Indoor Environmentalist.

The professionals at Air Care & Restoration Co. are fully certified as CMI (Certified Mold Inspector) and CIE (Certified Indoor Environmentalist).

A \$100 savings is being offered on the Mold Screen package until July 30th, 2007. Call us today for details at 610-865-8090.

Children's Health Corner

Recent study links child asthma with structural dampness

A fresh study by the Environmental Health section of the National Public Health Institute shows a strong link between asthma in children and dampness in the building structures of the home.

According to an article in the upcoming edition of the *European Respiratory Journal*, at least one in ten, and possibly as many as one in five cases of asthma among children are linked with water damage in the building.

The onset of asthma is the result of the cumulative effect of many factors. Nevertheless, in the 1990s there was a rapid increase in cases of asthma as well as an increase in damage caused by dampness in buildings.

When the small children involved in the study were diagnosed with asthma, two building engineers were sent to the home to look for signs of dampness: leaks of water and stains they may have left behind, discoloration in building materials, flaking paint on walls, fungal odor, or visible fungus.

The engineers also visited the homes of children in a control group. These children, who did not have asthmas, were of the same age as the ones who did, living in the same kinds of buildings and in the same area.

It was found that the homes of children with asthma were more likely to have windows that fogged up in cold weather, as well as humidifiers and supplementary heaters.

Dampness and visible fungus in living areas had a significant correlation with the frequency of asthma; fungus in cellars and saunas, where children spend less time than in their bedrooms, were less significant.

The researchers recommended that closer attention be paid to the planning, implementation, and maintenance of buildings.

The degree of the damage also affected the risk of illness. The more serious the damage, the greater the danger that a child might come down with asthma.

It has been estimated that between 84 and 95% of fungus spores and 27 to 46% of fragments can end up in the lungs, and it is believed that the fragments can get into the lower respiratory tracts of small children more easily than that of others.



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Premier Issue!

Please contact us if you have any suggestions for us or a topic you would like to see addressed in future issues.

If you would like to be removed from this mailing list, please call us at 610-865-8090 or email us at aircareinc@verizon.net.

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Redeem these Coupons for Valuable Savings!

\$50 OFF

Any portable
Air Purifier

(Cleans 700 sq. ft. - 1,500 sq. ft.)

All units are Class 2
Medical Devices

Expires 7/30/07

\$150 OFF

Any Whole House
Clean Air System

Plus **FREE** In
Home Survey by
Certified Indoor
Environmentalist

Expires 7/30/07

Ask the Expert questions will be personally answered by our Certified Indoor Environmentalist. We encourage you to submit your questions to aircareinc@verizon.net. If your question is published in this publication, you will receive a \$50 Gift Check to be used towards Air Care & Restoration services!

May is Asthma Awareness Month!

**World Asthma Day is
May 1, 2007**

Visit the Asthma Awareness
Month website at
www.epa.gov/asthma/awm.html

See What Asthma Awareness
Month Events Are Going On Near
You!

Download Your Asthma
Awareness Month Event
Planning Kit!

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