THE "INFO"-HALER

TAKE IN THE INFORMATION

An easy to understand, informative newsletter for our patients of all ages from the
Allergy & Asthma Associates of Michigan, P.C.

ENVIRONMENTAL ISSUES

Individuals with allergies and asthma know how important it is to avoid exposure to allergens that trigger their symptoms. They also know how to take their medications, get their allergy injections, use their preventative inhalers, and control their symptoms. Yet, so many people with allergies and asthma continue to be plagued by symptoms despite treatment, and statistics show that the incidence of allergies and asthma is on the rise. Many people believe environmental issues are contributing to this already complex problem.

Indoor and outdoor air pollution affects the quality of air we breathe. Children are developing allergic asthma at alarmingly high rates, due in part to their lung biology, and also to environmental changes. Lung development occurs in a child's first eight years of life, leaving young children more vulnerable to environmental insult from air pollution, toxic pollutants, and chemical irritants. Some believe that extensive exposure at a young age may even interfere with developmental processes in the lungs, including normal repair processes.

Indoor air pollution has been thought to be linked to sick building syndrome (SBS). Sick building syndrome occurs in newer homes and commercial buildings that are more tightly sealed from outdoor air, resulting in higher indoor humidity, lack of air circulation, and poor filtration, causing poor air quality. Children are spending more time indoors (average 20 hours per day) and hence are being exposed to indoor allergens such as pet dander, rodents, dust mites, molds, and cockroaches, plus second hand smoke and chemical pollution. Common symptoms of SBS are headache, eye, nose, and throat irritation, dry or itchy skin, dry cough, dizziness, nausea, difficulty concentrating, and fatigue.

Sources of indoor air pollution include pesticides, radon, lead paints, mold and fungi, gas or oil furnace exhaust, cleaning agents, tobacco smoke, and outdoor air pollution that seeps indoors. Molds and fungi are common culprits of indoor pollution and are especially found in poorly ventilated buildings that contain damp or humid air. Exposure to air contaminated by mold and fungi may cause rhinitis and asthma in those who are allergic to them.

Several household chemicals can cause allergy and asthma symptoms. Formaldehyde used in cabinetry and furniture may cause breathing difficulties. Methylene Chloride in paint strippers is a known carcinogen. Pesticides irritate eyes, nose, and throat, and bring on respiratory problems. Detergents with fabric softeners are frequently filled with alcohol and petroleum based synthetics that are designed to brighten, soften, and scent your fabrics. Some of these chemicals remain in your clothes after washing, causing rashes, migraine headaches, and other respiratory problems. Dry-cleaned clothes are treated with perchloroethylene (perc) a solvent that can be toxic. If there is a detectable odor on dry-cleaned clothes, there is chemical exposure taking place. New carpeting, it's backing, and the glues used to install it, may all release dangerous toxins. Ionizing air cleaners in the home may emit ozone, a pollutant that causes wheezing, coughing, chest pain, and exacerbation of allergies. Indoor swimming pools that are overly chlorinated, result in inhalation of chlorine fumes which irritate the nose, sinuses, and bronchial mucosa, causing inflamed airways, chest tightness, shortness of breath, and reduced performance. Swallowing of overly chlorinated pool water may lead to gastrointestinal problems. Indoor ice rinks may also emit sulfur dioxide and carbon monoxide resulting in chest tightness, shortness of breath, and often reduced performance.

Individuals who are exposed, over a long period of time, to mixtures of chemicals released by household products, building materials, and furnishings, may develop multiple chemical sensitivity (MCS), a disease which affects approximately 5% of the population. Symptoms include headache, fatigue, lapses in memory or concentration, weakness, dizziness, muscle and joint pain, upper respiratory irritation, gastrointestinal problems, and skin irritation. Others may develop a respiratory disorder called occupational asthma, which is directly related to inhaling fumes, gases, dust, or other harmful substances, while on the job. It is estimated that up to 15% of asthma cases in the United States are due to occupational asthma. In both diseases, symptoms worsen with exposure and improve when the individual is removed from the environment.

Treatment for indoor pollution consists of ventilation, ventilation, ventilation! When cleaning, open windows, use exhaust fans, keep room doors open, and maintain humidity at less than 50%. Wear gloves or facemasks to limit chemical exposure. Close all cleaning containers tightly when not in use. Use natural products like potpourri or baking soda, rather than chemical air fresheners. Use natural pesticides or set traps, double rinse all clothes and use the least amount of scent free detergents needed to do the laundry, remove plastic dry cleaning bags and hang garments in a well ventilated area until odors are gone, buy carpeting that says it meets low emission standards, and swim in large, open pools with high ceilings and good air circulation.

Outdoor air pollution may contain power plant emissions, tobacco smoke, smoke from forest fires, diesel exhaust, irritant gases, ozone, outdoor molds, sulfur dioxide, and nitrogen dioxide. Ozone, a pollutant formed mainly from car exhaust can cause symptoms such as shortness of breath, chest tightness, wheezing, and coughing. When hydrocarbons from car exhaust react with sunlight and ozone, smog is produced. Days when these conditions exist are referred to as ozone action days. On these days, the air quality is poor, and asthmatics need to stay indoors. Cyclists, runners, and outdoor exercisers are especially susceptible to these effects due to higher breathing rates. During exercise, an individual may breathe ten times more air, and hence ten times more air pollution, then they would at rest. It is advised that on ozone action days, people refrain from outdoor exercise, burning wood or trash, cutting lawns, and filling gas tanks before sundown. Photochemical smog levels increase after the morning rush hour as the exhaust travels throughout the bright sunlight. Pollution levels are usually at their lowest in the very early morning hours, and again in the evening.

Outdoor herbicides and pesticides are potentially harmful and toxic by definition, as they are designed to kill weeds and pests. Diazinon, a leading insecticide, can cause headache, dizziness, nausea, and general weakness with exposure. Most all commonly used lawn pesticides are known irritants. A growing number of schools and parks are now switching to organic pesticides, as they are more user friendly to the environment.

Global warming has caused rising carbon dioxide levels in many areas. In carbon dioxide enriched conditions, plants boost their reproductive success. Ragweed, grown in areas with double the carbon dioxide levels, produced 61% more pollen than normal. As the carbon dioxide level continues to rise, ragweed, and other allergenic plants, will continue to flourish.

Airplane travel has also created some of the worst indoor dust mite and animal dander sites. Airplane cabins are tightly sealed environments that lack adequate air filtration. They are known to have high quantities of allergens and irritants that thousands of passengers carry on with them daily. Many airline seats host colonies of dust mites and their allergenic waste products. Some airlines allow pets under the seats, smoking on board (international flights), and serve peanuts in the cabin.

Environmental issues are certainly challenging, but best approached with common sense and discretion. Use good judgment, make smart decisions, and try to be prepared for all situations.

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