

E. Fragrances

All of us want to have a fresh smelling home all the time. Fragrance products have, thus, become a necessity not only in households but also in private vehicles, spas, restaurants and other establishments.

Fragrance products that dominate our homes include air fresheners which can be in a form of plug-in deodorizer, spray, wall mounted devices, urinal or toilet blocks, potpourri, scented candles, reed diffusers, incense, and many more. These scented products contain volatile organic compounds (VOCs) such as acetaldehyde, acetone, chloromethane, ethanol and phthalates which are known to be hazardous and toxic.

Another source of significant indoor air pollution are scented candles that produce more soot than unscented candles, lead, phthalates, toluene, benzene and styrene. Exposure to fragranced products is associated with potential adverse health effects like eye and respiratory tract irritation, asthma, rhinitis, allergic contact dermatitis as well as multiple chemical sensitivities.



A Healthy Home Equals a Healthy You!

Ways to control Indoor Air Pollution

1. Encase mattresses and pillows in allergen proof fabric covers.
2. Beddings and pillowcases should be changed at least once a week, washed with last rinse in hot water, exposed to direct sunlight for drying as well as ironed.
3. Vacuum and clean the house regularly.
4. Food should not be left behind on kitchen or table counters. Store left overs in tightly enclosed containers.
5. Garbage disposal should be done regularly.
6. Holes and cracks should be sealed immediately.
7. Monitor cockroach infestation regularly by using strategically placed sticky traps.
8. Ensure that there is adequate ventilation in the bathroom and kitchen areas.
9. Have air conditioning units regularly cleaned.
10. You can get rid of mold colonies by cleaning with water, detergent and 5% bleach then dry the area or the item completely.
11. Removal of the pet is necessary if found to be positive to pet allergen via skin prick testing.
12. Enforce a strict "NO SMOKING" policy at home.
13. Switch to gas stoves with exhaust hoods or electric stoves.
14. Turn off the engine of the car when not in use.
15. Avoid the use of mosquito coils.
16. Avoid using fragrance products.

**Environmental Committee
Anti-Pollution Council
2016**



**Philippine Society of
Allergy, Asthma &
Immunology, Inc.**

Indoor Air Pollution Patient Information Brochure

Over the past few years, we have seen an increase in the prevalence of allergic diseases, especially in developing countries. Genetic influences alone cannot account for the rapid increase. Environmental factors, such as air pollution and climate change, have been found to contribute to the increase in allergic diseases as well. Recent studies show that pollutants have the capability of modulating host response to allergens, making one more susceptible to allergic disease.

Aside from outdoor air pollution, we also have to pay attention to the pollution going on inside our own homes. Majority of patients develop allergy symptoms while at home and at work due to exposure to indoor pollutants coming from allergens such as house dust mites, cockroach, pets and molds as well as non – allergens such as smoke and fragrances.

This informational booklet aims to raise awareness among patients regarding indoor pollution and how we can reduce it in order to prevent development of allergic diseases, particularly Allergic Rhinitis and Asthma.

I. Allergens

A. House Dust Mites

Dust mites are the most common triggers of Asthma and Allergic rhinitis worldwide.

While they can be found throughout the house, these microscopic creatures prefer to live in warm, humid environments such as beddings, upholstered furniture and carpeting where they can readily have access to their favorite source of nutrition: human and animal shedding.

B. Cockroach

Cockroach allergy plays a significant role in the development of Asthma and Allergic rhinitis particularly in developing cities.

Cockroaches are often found in multiple family dwellings such as condominiums and townhomes, but may be found almost anywhere as long as there is available discarded food for them. This does not mean that you have a dirty house or living area though.

C. Molds

Indoor molds and mildew prefer areas that are damp and have high humidity such as the kitchen, bathroom or any area with leaks.

Homes that have been flooded or have been water damaged may contain areas with mold colonies as well.

D. Pets

Contrary to popular opinion, there is no such thing as a hypoallergenic breed of dogs or cats. The allergen is not found in animal hair, but rather, in the saliva, dander (dead skin flakes) or urine of animals with fur.

Both allergens and irritants contribute to the pollution inside our homes. Allergens are substances, which, even in minute amounts, trigger allergic airway responses in atopic individuals while Irritants are substances that may trigger airway responses affecting the whole population, whether atopic or not. Irritants release pollutants that have been shown to exacerbate allergic airway responses by modulating host response to allergens.

II. Irritants

A. Cigarette Smoke

Cigarette smoke contains several pollutants such as nicotine, cresols, formaldehyde and tobacco specific nitrosamines. These pollutants are known to cause respiratory irritation as well as gene mutation via direct smoking, second hand or even through third hand exposure.

Second hand smoke refers to exposure to smoke exhaled by someone directly smoking or the smoke residue from a cigarette butt. Exposure to cigarette smoking during pregnancy is an example of second hand smoke exposure. It is one of the known risk factors in developing Asthma in childhood.

Cigarette smoke may linger on our hair and clothes. It may also stay on surfaces for weeks or months even after active smoking has stopped. This is known as third hand smoke. Children are highly susceptible due to their habit of exploring and ingestion of non – food objects. So even if you smoke while your children are not around, they can still be exposed through the smoke that remains in the indoor environment.

B. Cooking Appliances

Using wood for cooking may lead to the release of water vapor, particulates and various gases. Gas cooking appliances can also contribute to indoor pollution. Nitrogen dioxide, carbon monoxide and formaldehyde are 3 of the common indoor pollutants produced by gas stoves.

Direct exposure to cooking as well as being in close proximity to gas stoves has been linked to development of respiratory symptoms such as nasal congestion, cough, phlegm production and wheeze. Furthermore, inhalation of nitrogen dioxide has also been shown to enhance the effect of viral infections in asthmatic patients.



NO SMOKING

C. Indoor Parking Garage

Those with indoor parking garage areas, particularly in residential buildings, are at risk of exposure to diesel exhaust particles, nitrogen dioxide and carbon monoxide. These pollutants have been shown to cause oxidative stress in the airways leading to cough, wheeze as well as nasal symptoms.

D. Mosquito Coils

Use of mosquito coils to ward off insects is a common practice in most households. Several studies, however, have shown that mosquito coils emit harmful pollutants such as particulate matter and may lead to respiratory diseases such as hypersensitivity pneumonitis and exacerbation of Asthma and Allergic rhinitis.