Avoiding Asthma Triggers: A Primer for Patients

Constance Young  
Special Medical Correspondent

This “DO Touch” column is designed to provide physicians with information they can use and share with their patients.

In June 2011, US Secretary of Health and Human Services Kathleen Sebelius joined with Surgeon General Regina M. Benjamin and other government officials to unveil the National Prevention Strategy, which was mandated under the landmark Patient Protection and Affordable Care Act of 2010. The National Prevention Strategy outlines guidelines for preventing heart disease and other chronic health problems, including asthma.

Patients who can least afford the health problems and financial burdens of asthma are at increased risk. According to a series of studies by Radim J. Sram, MD, DSc, and colleagues at the Laboratory of Genetic Ecotoxicology at the Institute of Experimental Medicine in the Czech Republic, low-income and minority populations are at greatest risk of exposure to environmental pollutants, resulting in a higher risk of asthma. Moreover, children are generally more vulnerable to asthma-triggering environmental exposures than adults, largely because their body systems are still developing. According to the National Center for Health Statistics, nearly 1 in 10 children aged 17 years or younger has asthma—with African American children at greater risk of asthma (17%) than Hispanic or non-Hispanic white children.

Furthermore, certain behaviors of children tend to expose them to chemicals and organisms that can trigger asthma attacks. For example, children often play close to the ground. Outdoors, this behavior can put them in contact with contaminated soil. Indoors, the behavior can put them in contact with contaminated carpet and surface dust. The Environmental Protection Agency (EPA) reports that children's asthma risks are greater compared to adults, because they have higher inhalation rates per unit of body weight, and they consume more asthma-triggering foods and beverages (eg, dairy products, peanuts).

Major Asthma Triggers

Your patients, both young and old, should be instructed on how to avoid the following triggers of asthma.

Secondhand Smoke

Secondhand smoke, also referred to as environmental tobacco smoke, is a mixture of smoke from a burning cigarette with smoke exhaled from the lungs. The EPA reports that tobacco smoke contains more than 4000 chemical compounds, many of which are known poisons. Just the smell of tobacco
smoke can trigger an immune response that initiates the inflammatory process, leading to runny nose, watery eyes, sinus congestion, lower peak flows, wheezing, and shortness of breath.

**Animal Dander**
Most animals shed dander, small scales or flakes that have the appearance of dandruff but are composed of minute pieces of hair, feathers, or skin. Dander can trigger hypersensitivity and asthma reactions. Some people mistakenly believe that short-haired animals cause fewer allergy and asthma problems than longer-haired animals. There is no scientific basis for this belief, because it is not the hair itself but the dander that stimulates the hypersensitivity reaction.

**Dust Mites**
Dust mites are tiny arachnids related to ticks and spiders that are found in most homes, though they are invisible to the eye. Dust mites feed on skin flakes and dust, usually on mattresses, pillows, carpets, and upholstered furniture. Dust mite pieces and droppings are allergens that can travel through the air to trigger the allergic cascade and worsen asthma. Careful housekeeping can help manage this problem.

**Cockroaches**
Cockroaches can be difficult to avoid in crowded metropolitan areas. These insects can also be found, usually in lesser numbers, in suburban and rural homes. For many individuals with asthma, the droppings and saliva of cockroaches will trigger attacks. Because cockroaches are so ubiquitous, individuals with asthma should practice good housecleaning measures and learn cockroach-control techniques.

**Molds**
Molds are fungi that grow in most moist environments. They survive by absorbing nutrients from plant and animal matter, and they produce tiny spores that can become airborne, thereby triggering asthma attacks. If the spores land on moist surfaces, they will grow into new molds. The EPA publishes a free guide with up-to-date information about preventing mold growth and ridding the home environment of existing mold (available at http://www.epa.gov/iedmold1/mold-guide.html).

**Other Triggers of Asthma**
Other triggers of asthma include work-related substances (eg, occupational exposures to chemicals), physical overexertion or inactivity, excessive heat or cold, noise, and psychosocial factors (eg, stress, job strain).

**Patient Education**
Education is crucial for patients with asthma. Following are some key points you should emphasize with your patients who have asthma.

**Quit Smoking**
Advise patients who smoke to quit. Inform patients that they could minimize smoke’s asthma-triggering effects by refraining from smoking in the home and car. In addition, all patients with asthma-prone children should be advised to keep smoke away from them.

**Be a Careful Housekeeper**
Because dust mites, cockroaches, and other household pests can trigger an asthma attack. Some helpful housekeeping tips:

- Clean and dust frequently. Keep in mind that hard floors accumulate as much asthma and allergy triggers as do carpets.
- Vacuum, rather than sweep, bare floors. Sweeping might stir asthma triggers into the air. High-filtration vacuum cleaners are typically recommended for patients with asthma and hypersensitivity problems. However, Consumer Reports claims that some vacuum cleaners that use conventional micron filters can trap allergens just as well as HEPA-filtered units. In addition, be sure to replace air conditioner and furnace filters as often as possible (preferably monthly), using high-quality filters.
- Use a basic mop to clean hard floors, but care must be taken to not use cleaning fluids that are known to trigger asthma and hypersensitivity reactions. Patients might consider making their own nontoxic liquid cleaners from a mixture of white vinegar and baking soda.
- Consider using alternative cleaning methods for hard floors, such as steam cleaners that may be better suited than a basic mop for patients with asthma.
- Wear a filtration mask when cleaning to help prevent the development of asthma symptoms.
- Check out resources such as the article, “Should Asthmatics and Allergy Sufferers Have Pets?” (available at http://www.housekeeping channel.com/a_289-Should_Asth matics_and_Allergy_Sufferers_ Have_Pets).
Address Problems of Standing Water or Humidity
Molds are common asthma triggers for individuals who live in homes with high humidity, standing water, or water damage. Dehumidifiers should be used as needed, and household water problems should be rectified.

Pet-Proof the Home
People with asthma who do not want to get rid of a beloved pet should be advised to keep the animal out of bedrooms—or at least to not let the animal sleep in the bed. Pets should also be kept off furniture and be bathed frequently with allergen-reducing shampoo.

A recent study led by epidemiologist Ganesa Wegienka of Henry Ford Hospital in Detroit analyzed allergens in dogs’ saliva that could trigger symptoms of hypersensitivity and asthma. The researchers found—contrary to common belief—that exposing a child to cats and dogs at an early age does not raise that child’s risk of hypersensitivity. Instead, they found that children exposed to cats and dogs in their first year of life were at a decreased risk of sensitization to the animal.

Pinpoint Environmental Triggers
Keep in mind that a hypersensitivity reaction to 1 environmental factor could be confused with a reaction to another factor. Therefore, patients with hypersensitivity should be tested for specific types of allergies to identify and distinguish between potential triggers.

References


