Controlling Indoor Allergens

The number of cases of asthma has increased in recent years, and researchers have been looking for the reasons why. In many cases, evidence has led to the consideration of allergens and other triggers inside the home and workplace. Americans spend 30 percent to 60 percent of their time in their homes and many hours in enclosed working environments.

As attention turns to the indoor triggers that can cause asthma, scientists are beginning to figure out ways to control them and, thus, to control asthma attacks. Avoiding triggers is the safest, most logical and most effective way to control asthma, equivalent to a cure for many people.

The most common indoor allergens and irritants include dust mites, mold, animal dander, cockroach debris, smoke (from cigarettes, fireplace chimneys, woodstoves or other sources) and strong odors. But there are many other possible culprits — more than 2,000 indoor irritants have been identified that can trigger an asthma attack.

The role that different triggers play and the steps to control them differ for each individual and environmental circumstance. A number of general approaches can be taken, though. Environmental control should be approached in steps.

The first steps are relatively simple and inexpensive and can be initiated when sensitivity to an item is suspected. These include frequent vacuuming (not by persons with asthma), removal of objects that harbor irritants (when removal is a relatively simple matter) and the placement of barriers, such as airtight covers on mattresses and pillows.

The second step, for people with known allergies and whose symptoms fail to respond to the first step, is more expensive and might include removing nonwashable rugs and draperies.

The third step involves cleaning heating ducts, using air cleaners and using chemicals such as tannic acid, that denatures allergens, and benzyl benzoate, which kills dust mites.

A little knowledge about the most common irritants and how to combat them is a helpful way to begin:

- **Dust mites** are the most common indoor allergens. Dust mites are microscopic eight-legged bugs related to spiders and ticks. They live primarily in fabric -- carpets, upholstery, bedding, draperies, stuffed animals -- and prefer warm, moist environments. They live on human skin dandruff. Dust mites can be controlled by frequent vacuuming, covering mattresses, removing stuffed animals and reducing humidity. Second-line measures include removing wall-to-wall carpets in bedrooms and dehumidifying the home.

- **Animal allergens** are another common cause of asthma. Cats and dogs are the most likely offenders because they are the most common house pets, but any furred animal can carry these allergens. It is usually not the animal fur itself that causes a reaction but substances in animal saliva, urine or skin secretions. So a long-haired dog or cat is no more likely than a short-haired one to cause allergic reactions, except that long-haired pets are usually bigger and have larger body surface areas. Removing pets from the home is the best way to counter animal allergens, but often a difficult step to take. If a family member has a documented allergy, keeping the pet outdoors might be a feasible alternative. Once the pet is removed from the home, it is important that the house be thoroughly and quickly cleaned, with particular attention to areas where the animal stayed. Increasing ventilation can also help. But it may be a slow process -- studies have found that it usually takes from four to six months after a cat has been removed from a home for allergens to fall to a level that does not produce symptoms.

- **Cockroaches** are another common indoor allergen and a particular problem in inner city homes. Studies have found that more than half of inner city homes have cockroaches, with the
greatest prevalence as you move south to warmer climates. Controlling cockroaches can be
difficult, and even after aggressive extermination, it is necessary to thoroughly clean your
home to get rid of dead roaches and debris.

- **Molds** grow indoors and out, and most molds do not cause allergic reactions. However, some
do — and these include the type that grow in warm, moist environments and often are found
on basement walls and floors, window moldings, shower curtains and bathroom walls and
fixtures. As might be expected, these present the greatest problems in areas of the country
with warm, humid climates and the fewest problems in dry areas such as the Southwest.
Molds can be conquered by eliminating breeding grounds when possible, scrubbing any areas
where mold growth is visible, dehumidifying the home to discourage growth and treating
areas of mold growth with fungicides or a diluted chlorine-bleach solution (one part bleach, 10
parts water).

The effects of home allergens can be reduced by a number of measures:

- Close windows and use air conditioning during warm weather to keep out pollens and dust-
borne spores.
- Dry clothes indoors to avoid bringing in outdoor pollens.
- Keep your home clean by vacuuming and dusting frequently.
- Keep moist surfaces dry and mold-free.
- Inspect and clean major appliances before seasonal use.
- Change cooling and heating system filters according to manufacturers' instructions.
- Use a dehumidifier in humid weather; empty dehumidifier and clean reservoir daily.
- Use washable curtains and shades rather than heavy blinds or draperies.
- Keep water from seeping into the home.
- Fix leaky plumbing.
- Get rid of carpets, ceiling tiles, stuffed toys, furniture, mattresses, draperies or any other
  household materials that have been damaged by water exposure.
- Ventilate ceiling crawlspace.
- Maximize air flow throughout house.
- Use synthetic or foam rubber pillows and cover mattresses with air-tight and waterproof
  covers.
- Avoid wool or feather blankets or down comforters.

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