## The Asthma \& Allergy Center

## Reducing Allergens

After spending more time indoors this winter, you may have noticed you had increased allergy symptoms. Allergies? In the winter? It's not only possible but probable.

Allergies are triggered by substances called allergens. Allergens can be found either outdoors (called seasonal allergies) or indoors (called perennial allergies). Perennial allergies are often triggered by allergens found indoors all year long-including animal dander, molds and the droppings of house dust mites and cockroaches.

## Managing mites

The droppings of microscopic creatures, called house dust mites, are the most common trigger of perennial allergy and asthma symptoms. Thousands of dust mites are found throughout the house, and especially thrive in high humidity. Symptoms of mite allergy can include a congested or runny nose with sneezing (particularly in the morning), itchy, watery eyes, coughing and wheezing.

To reduce mites, take the following steps:
-Reduce Humidity to less than $50 \%$ using a dehumidifier or a central/window air conditioner. -Remove wall-to-wall carpeting (especially carpet laid over concrete) and use hardwood, tile, linoleum, or regularly washed throw rugs instead
-Allergy-proof the bedroom by encasing mattresses, box springs, and pillows in airtight, zippered plastic or special allergen proof fabric covers. Wash your sheets weekly in hot water (cool and warm water doesn't kill mites). Comforters and pillows should be covered with allergy-proof encasings -Stash your stuff . Small objects such as knick-knacks, books, tapes, CDs, electronic equipment, and stuffed animals attract dust, so put them away.
-Clean weekly . While standard vacuums may stir dust into the air, vacuuming using a HEPA (highefficiency particulate) filter or a double bag can help. Those with allergies should also wear a dust mask.

## Leashing animal dander

"Hair of the dog" isn't what causes your allergies: contrary to belief, a protein found in the saliva, dander (dead skin flakes) or urine of animals with fur triggers symptoms. These proteins are carried in the air on invisible particles-which can land on the lining of the eyes or nose, or be inhaled directly into the lungs. Symptoms of animal allergy include sneezing, an itchy, runny nose, and itchy, swollen eyes and throat. Itchy skin or a raised, red rash called hives can also result from touching the animal. A cat or dog produces a certain amount of allergen per week, and this amount can vary from animal to animal. All cat and dog breeds have dander that can trigger symptoms-there are no
"hypoallergenic" breeds.
To lessen animal allergies, take the following steps:
-Avoid the animal. Avoid any contact with the animal although separation from your pet can be difficult, this means removing the animal from the home and placing it with a caring friend or relative. Keeping the animal outdoors doesn't help much; homes with pets in the yard still have high concentrations of animal allergens indoors
-Test your pet. Before you get a pet, spend time with someone else's dog or cat to determine if you're allergic. You may also consider getting a pet such as a turtle, hermit crab, fish, snake, or any other animal that does not have fur.
-Minimize contact. If you can't remove the animal from the home, keep him or her out of the bedroom. Any visit by the animal leaves allergens behind, so it is important to make sure the animal knows it is not allowed in any rooms in which those with allergies spend a great deal of time.
-Bathe the beasts. Ask non-allergic family members to take over some pet duties, including weekly baths (which some studies show may reduce the amount of allergens shed). If you plan to wash your pet regularly, consult with your veterinarian regarding care of your animal's skin to prevent excessive dryness. Also, ask a family member to brush your pet outside to remove loose hair and allergens, or to clean the cages of pets such as rabbits, hamsters, and guinea pigs (their urine contains allergens).
-Clean cushions, carpets. Animal allergens can be airborne, accumulating on all horizontal and even vertical surfaces in the home. Since the allergen particles can go through fabrics, cover mattresses and cushions in zippered, plastic casings to prevent the release of allergens. Vacuuming does not clean the lower levels of the rug, and in fact, can stir up small allergen particles. Using a HEPA vacuum filter or double bags may help. As with dust mites, replace carpeting with hardwood floors, tile, linoleum or throw rugs that can be washed.
-Replace Bedding. It can take weeks or months for fabrics to come clean of allergens. In some homes, animal allergens may persist for a year or more after the animal has been removed.

## Controlling cockroaches

Cockroaches have been around for more than 300 million years. While most live in warm, tropical climates, various species dwell in the offices and homes of humans, who inadvertently provide them with the food and water they need to survive. Cockroaches are not just an unwelcome visitor - a protein in their droppings is a primary trigger of asthma symptoms, especially for children living in densely populated, urban neighborhoods.

To eliminate these pests and their waste from your home, take these steps:
-Block their entrances. Block areas where roaches could enter the home, including crevices, wall cracks, windows, woodwork, floor gasps, cellar and outside doors, and drains.
-Dry them out .Cockroaches need water to survive, and thrive in high humidity. Rid the home of excess water by fixing and sealing leaky faucets and pipes, especially under the kitchen sink. -Keep it clean Roaches feel less welcome in a clean, dry house. Keep food in tight-lidded containers and put pets' food dishes away after they are done eating. Vacuum and sweep floors after meals, and take garbage and recyclables out frequently. Use lidded garbage containers in the kitchen, and wash dishes immediately after use in hot, soapy water. Clean under stoves, refrigerators or toasters; wipe off the stove and other kitchen surfaces and cupboards regularly.
-Go with a pro. You may want to have a trained exterminator go through the house when your family and pets are gone to ensure that any remaining roaches are eliminated.

## Controlling indoor molds

Indoor molds and mildew thrive in humid areas of the house, such as damp basements and bathroom windows. Common sources of indoor mold include humidifiers, air conditioning vents, bathtubs, shower stalls, damp carpeting, plants, garbage containers, rotting flooring, window sills, or waterdamaged wallpaper. These molds send out small spores that can trigger allergy symptoms. Fortunately, mold and mildew are easily eliminated once you discover them in your home:
-Clean with bleach Use a cleaning solution containing 5\% bleach and a small amount of detergent to clean household areas.
-Remove the source If mold or mildew are visible in carpeting or wallpaper, remove these items from the house. Also, promptly repair and seal moisture sources such as leaking roofs or pipes.
-Dry it out . Dampness encourages mold growth, so use a machine that dry cleans wall-to-wall carpets. Never put carpeting on concrete or damp bathroom or basement floors, and avoid storing clothes, papers or other items in damp areas. Empty water in dehumidifiers and clean units regularly to prevent mildew from forming. Remember that all rooms require ventilation and consistent cleaning to deter mold and mildew growth.

## Adapted from the AAAAI

-Peanut and/or tree nut (e.g. walnut, almond and cashew) allergy affects about three million Americans, or $1.1 \%$ of the population. 15
-At least 40 deaths occur annually in the United States from reactions to insect stings. 16 -A severe allergic reaction known as anaphylaxis occurs in 0.5 to $5 \%$ of the U.S. population as a result of insect stings. 17
-Venom immunotherapy prevents systemic reactions in stinging insect-sensitive patients $97 \%$ of the time. 16
-Between 1988 and 1992, latex allergy was estimated to affect 1,000 people. 18
References

1. Gergen, P.J., Turkeltaub, P.C., Kaovar, M.G. "The Prevalence of Allergic Skin Reactivity to Eight Common Allergens in the U.S. Population: Results from the Second National Health and Nutrition Examination Survey." Journal of Allergy and Clinical Immunology (1987) 800:669-79.
2. American Academy of Allergy, Asthma and Immunology. Task Force on Allergic Disorders. Executive Summary Report. (1998).
3. Nathan, R.A., Meltzer, E.O., Selner, J.C., Storms, W. "Prevalence of Allergic Rhinitis in the United States." Journal of Allergy and Clinical Immunology (1997) 99:S808-14.
4. United States. Centers for Disease Control and Prevention. National Center for Health Statistics. Advance Data 195. 1996.
5. Fireman, P. "The Most Common Allergy: Allergic Rhinitis." The Allergy Report 1998; Discover Magazine (March 1998) S-13-14.
6. Storms, W., Meltzer, E., Nathan, R., Selner, J. "The Economic Impact of Allergic Rhinitis." Journal of Allergy and Clinical Immunology (1997) 99:S820-4.
7. Hewitt Associates LLC. The Effects of Allergies in the Workplace. 1998.
8. "Parameters for the Diagnosis and Management of Sinusitis." Journal of Allergy and Clinical Immunology (1998) 102:S107-S144.
9. Ray, N., Baraniuk, J., Thamer, M., Rinehart, C., Gergen P., Kaliner, M., Josephs, S., Pung, Y. "Healthcare expenditures for sinusitis in 1996: Contributions of asthma, rhinitis, and other airway disorders." Journal of Allergy and Clinical Immunology (1999) 103:408-14.
10. Sullivan, T.J. "Drug Allergy." Allergy Principles and Practice. 4th ed. St. Louis: Mosby, 1993.
11. Horan, R.F., Schneider, L.C., Sheffer, A.L. "Allergic Disorders and Mastocytosis." Journal of the American Medical Association. (1992) 268:2858-2868.
12. United States. Centers for Disease Control and Prevention. National Center for Health Statistics. Vital and Health Statistics Series. (1996) Vol. 13, No. 134.
13. "Anaphylaxis in Schools and Other Childcare Settings." Journal of Allergy and Clinical Immunology. (1998) 102:173-76.
14. Sampson, H.A., Metcalfe, D.D. "Food Allergies." Journal of the American Medical Association. (1992) 268:2840-5.
15. Sicherer, S., Mu?oz-Furlong, A., Wesley Burks, A., Sampson, H. "Prevalence of Peanut and Tree Nut Allergy in the United States Determined by a Random Digit Dial Telephone Survey." Journal of Allergy and Clinical Immunology (1999) 103:559-62.
16. "Stinging Insect Hypersensitivity: A Practice Parameter." Journal of Allergy and Clinical Immunology (1999) 103:963-980.
17. Valentine, M.D. "Anaphylaxis and Stinging Insect Hypersensitivity." Journal of the American Medical Association (1992) 268:2830-2833.
18. Sussman, G.L., Beezhold, D.H. "Allergy to Latex Rubber." Annals of Internal Medicine (1995) 122:43-46
*Adapted from the AAAAI
