ENT AND ALLERGY SPECIALISTS

ENVIRONMENTAL CONTROL MEASURES

Allergies are an abnormal sensitivity to a substance that most people can tolerate without difficulty. A child with one allergic parent has a 30%-50% chance of developing allergies. If both parents are allergic, the odds rise to 60%-80%.

For some people, allergies may cause only mild discomfort. For others, the condition may contribute to missed school and work and cause serious illness. Once allergies have been identified controlling your environment is critical. Although you can't eliminate all of the allergens in your environment, you can do a great deal to reduce your exposure.

Dust Mite Avoidance Measures

Dust mites are tiny (microscopic) eight-legged creatures that are closely related to ticks and spiders. They grow best in warm, humid areas and live predominantly on a diet of human scales of skin. The design of "tight" energy-efficient homes with limited ventilation, high indoor temperature and humidity has led to increased mite levels over the past 20-30 years.

Symptoms of dust mite allergy tend to be most prominent in the fall and winter. Dust mites thrive in fabrics such as mattresses, pillows, bedding, carpet, upholstered furniture and stuffed animals. The bedroom should be the first line of focus.

1. Bed: mattress, box spring and pillow should be covered with allergy proof cover. Vinyl and plastic are adequate but not as durable and comfortable as airtight cloth covers.
2. Bedding: wash all bedding in a hot water cycle (130 degrees) at least once every 2 weeks.
3. Dust Collectors: all unnecessary fabric items especially stuffed animals*, extra pillows canopies, comforters with down or feather and heavy drapes should be removed from the bedroom. Remove stuffed furniture. Avoid wall pennants and cloth hangings.
4. Dust: carefully dusting with a damp rag once or twice a week should be adequate.

*stuffed animals can be placed in a freezer for 12 hours every 10-14 days to kill dust mites.

Dust Mite Avoidance Measures (continued)

5. Humidification: Total avoidance of humidifiers or vaporizers in bedrooms. Use dehumidifiers in basement and in rest of the house during summer months.
6. Floors: Bare floors that can be damp dusted are preferable. If carpet is unavoidable, options are (1)vacuum with effective filtration (HEPA) twice a week; (2) vacuum cleaner with electrostatic filter if HEPA cleaner is not available; (3) use Acarasan, a dust mite pesticide; or (4) Tannic acid solution to break down dust mite allergen.
7. Closets: Should be used for clothing only. Avoid storage.
8. Air Cleaners: Dust mite allergens are carried on large particles that settle rapidly out of the air, so an air cleaner probably offers little benefit.

Pollen and Outdoor Allergies

It is more difficult to control exposure to outdoor allergens, like pollens and outdoor mold spores. Pollen allergy follows a highly predictable seasonal pattern. Pollens can travel great distances, so removing the source is impossible. Control measures are directed to keeping them out of your home.

1. During the spring, early summer and early fall months, keep the windows and doors closed in both home and car.
2. Use an air conditioner during the pollen season. The worst thing for introducing pollen into the bedroom is using an open window with fan.
3. If symptoms are severe, avoidance of certain activities during peak pollen season may be necessary.
4. Pollen counts are highest on dry, windy days.
5. Pollen counts vary over the course of the day.
    - Tree pollen counts peak in early morning.
    - Ragweed pollen counts peak in late morning.
    - Grass pollen peaks in early to mid-afternoon.
6. If intensely allergic to pollens, wearing a mask during outdoor activities may help. If eye symptoms are severe, consider wearing eyeglasses, sunglasses or goggles.
7. Avoid hanging clothes on a line outside to dry since pollen can become trapped in the fabric.

Mold Avoidance Measure

Molds are microscopic organisms that thrive in moist damp places. They are found in both indoor and outdoor environments. They are capable of growing wherever this is sufficient moisture and warmth. The most common indoor sites of mold growth are the basement walls and floors, window molding, shower curtains, and bathroom walls, ceiling and fixtures. Aspergillus and Penicillium molds are most prevalent in indoor environments.

REMOVE SITES OF MOLD GROWTH INDOORS

1. Dehumidify damp areas. The dehumidifier should drain continuously into a pipe or sink. In the basement, consider painting with mold inhibitor on brick or cinder block walls.
2. Bathrooms: Wash bathroom tiles and grout frequently. If mildew is present, clean with mold-specific disinfectant (Pine Sol, Lysol, Tilex, Clorox, X-14, Etc.)
3. Bedroom: Cover all mattresses and pillows in air tight covers so that they do not become damp.
4. Carpets: Remove all carpets in basements that have gotten wet repeatedly. Remove carpets form bathrooms.
5. Air Conditioners: Examine for mold. Clean filter frequently. Check central humidifier for mold accumulation.
6. House Plants: Although houseplants are not a major source of indoor molds, clean them appropriately and minimize the number. Do not stir up the soil. Keep plants out of the bedroom.
7. Closets: Molds grow well in closets that are damp and dark. Dry clothes and shoes before storing in closets. Store wool clothing, leather goods, and other textiles in dry closets.
8. Kitchens: Check foods for mold growth. Excess humidity produced by cooking should be removed with an exhaust fan. Clean garbage container frequently.
9. Firewood: Should be stored outside since mold can be present on the bark of the wood. Burning moldy wood can aggravate allergies and asthma. Live Christmas trees may also present mold spores in the home.
10. Windows: Seal windows tightly, wipe away condensation daily.
11. Utility Room: Vent clothes dryer to the outside.

Outdoor Sites of Mold Growth

Outdoor molds commonly grow in fallen leaves, soil, moist debris, wooded areas, and barns. They may become airborne spontaneously or with activity. They peak in the summer and fall and taper off after the first frost. They may thrive year round in tropical climates. Alternaria and Cladospormium are molds most prevalent in outdoor environments.

ELIMINATING EXCESS MOLD:

1. Proper drainage around home. Direct down spouts away from home.
2. Remove leaves and debris. Keep compost a good distance from house.
3. Ideally, lawn and house should not be heavily shaded.
4. Take care when hiking and camping in the woods. Consider high quality ground cloth and preventative medications.
5. Do not allow your children to play in leaves.

Pet Allergy: Avoidance Measures

Hair and Fur-Bearing Animals Should be Avoided by Sensitized Individuals

There is strong evidence that allergen (allergy causing material such as animal dander) exposure is an important factor in the development of asthma and other allergic diseases, and in determining the severity of the disease. Children with a strong family history of allergies are especially susceptible to developing asthma and other allergic diseases, even in very low levels of allergen exposure. It is best to remove the animal from the home. Unfortunately, benefits of removing the pet from the home may not be obvious for several weeks because of the large reservoir of animal allergens settled in dust.

PET ALLERGY AVOIDANCE MEASURED

1. Keep animals out of home (dogs, cats, ferrets, birds, rabbits, hamsters, gerbils, guinea pigs, etc.)
    - Cat and dog allergens remain in the air for prolonged periods of time.
2. If pet removal (dogs, cats, rodents) is not possible, the following measures may be helpful but not curative.
    - Keep pets out of bedroom and isolate to rooms with hard surfaces from which regular washing can occur.
    - Wash a cat every seven days and a dog twice a week to decrease the buildup of allergen in the dust reservoirs within the home.
    - Wash rugs in which pets lie every 1-2 weeks. Studies have demonstrated that there is variability in cat allergen shedding and male casts shed more allergens than female cats. Castration of male cats results in reduced allergen production.
3. Carpets serve as a major reservoir of pet allergens. Carpets accumulate pet allergens much faster than smooth floors. There is no effective method to make wall-to-wall carpets free of allergens.
    - Damp mopping on hard surfaces removes about 90% of surface mite and pet allergens.
    - Vacuum cleaners should have a good HEPA air filter and use double thickness bags.
4. Clothing should be washed regularly if contaminated with pet allergens. Large quantities of pet allergens can be found in the dust of beds, carpets, and clothing.
5. Cat and dog allergen levels in the air are reduced by air cleaners. Therefore should be used in any area in which the pet spends time. Use Air Cleaner/Purifier (HEPA) in the bedroom and living room.
    - When cats are removed from homes the air allergen levels drop by up to 70% and if permanently removed, the levels decline slowly over months and years. After removal of the pet, control may require aggressive cleaning.
6. Dander, hair and saliva are the most important sources of pet allergens. There are no allergen-free breeds of cats, dogs or other animals with hair or fur.

Cockroach Avoidance

Allergy to the common cockroach is extremely widespread. Cockroaches probably follow only dust mites and animal dander in importance as indoor allergens. They are commonly found in schools and office buildings. They are widely distributed around the world. In the United States, they are more common in urban areas. Cockroach allergen may be contained in body parts, feces, and/or other cockroach secretions. They are common triggers for both asthma and allergic rhinitis.

MEASURED TO ERADICATE COCKROACHES

1. Exterminate aggressively.
2. Use roach traps and baits.
3. Clean up thoroughly after extermination.
4. Seal cracks and other entry points.
5. Remove water sources.
6. Clean your kitchen after cooking.
7. Store all feeds in sealed containers (including pet foods)
8. Wash dirty dishes immediately.
9. Restrict meals and snacks to one or two areas in your home.
10. Keep your trash in a tightly covered can and remove daily.
11. Get rid of old newspaper, grocery bags, boxes and bottles.
12. Clean your cupboards and cabinets regularly.
13. Encase your mattresses and pillows in allergy proof covers.

Air Cleaners and Filters

Air cleaners are available as either central units or room units. Central units are designed to fit into your central heating or air conditioning system. They help to filter allergens. The efficiency of different nits varies a great deal. Only a tiny fraction of the allergens contained in a home circulate through the central heating system.

Room air cleaners are portable units and are designed to clean the air of an individual room or other small area. The filter's airflow has to be sufficient for the size of the room in which you use it. It is best to find a unit that is capable of trapping even very small particles. They generally are costly and require powerful fans, which can be noisy and increase energy costs.

The next three types use ELECTRICAL CHARGE TO TRAP PARTICLES

1. Electrostatic precipitators function by giving airborne particles an electrical charge, causing them to stick to an oppositely charged area inside the filter.
2. Electronic filters use static electricity in the filtering apparatus to trap particles. Filters need to be changed frequently in both devices, because their effectiveness drops considerably if the filter becomes dirty.
3. Ionizers charge airborne particles so that they will stick to walls and other surfaces outside of the cleaner. They do little to remove allergens from a room.

Another type of air cleaner uses a device to generate ozone gas in the air. The rationale is that ozone attacks and destroys some gases and germs but these units have little effect on airborne allergens. Some of these units can contribute to indoor air pollution.

The true effectiveness of air cleaners is not clear.

Dust mite allergen is carried on relatively large particles that tend to settle out of the air rapidly. Since an air cleaner can only remove the airborne allergens, they probably have little effect on decreasing mite exposure.

For animal allergens, at least cats, some of the allergen is carried on very small particles that may remain airborne for extended periods. An air cleaner may be able to filter and reduce allergen levels.

There is not enough information available on airborne characteristics of other animal allergens or indoor allergens like mold to predict the effectiveness of air cleaners in reducing their levels.

LAY ORGANIZATIONS

Allergy and Asthma Network Mothers of Asthmatics (AANMA)
www.breatheville.org

American Latex Allergy Association (ALAA, Inc.)
www.latexallergyresources.org

American Partnership for Eosinophilic Disorders (APFED)
www.apred.org

Asthma and Allergy Foundation of America (AAFA)
www.aafa.org

Food Allergy and Anaphylaxis Network (FAAN)
www.foodallergy.org

Immune Deficiency Foundation (IDF)
www.primaryimmune.org

The Mastocytosis Society (TMS)
www.tmsforacure.org

OTHER RESOURCES

National Allergy Supply, Inc.
www.nationalallergy.com
1-800-522-1448

Allergy Control Products
www.allergycontrolproducts.com
1-800-522-1448

MedicAlert
www.medicalert.org

Road ID
www.roadid.com