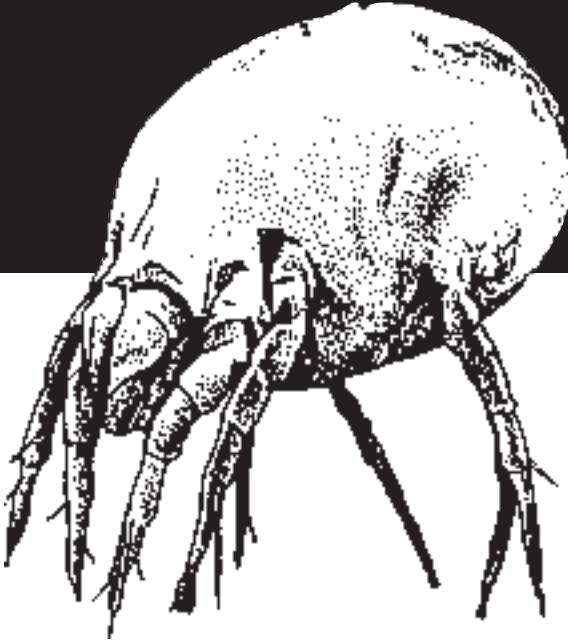


Environmental Information on Respiratory Allergy



KAISER PERMANENTE

Environmental Information

Respiratory allergy occurs when **allergens** including housedust, housedust mites, animal danders, mold spores, feathers, or pollens contact the mucous membranes of the nose, eyes or bronchial tubes. In sensitive persons this may result in nasal allergy, eye allergy, or bronchial asthma. Four processes are involved in the reaction:

1. **Inflammation.**
2. **Swelling of the mucous membranes** of the airway.
3. **Mucous production.**
4. In asthma, **contraction of the muscle** surrounding the bronchial tubes.

Inflammation is the most important component of the reaction. It occurs when white blood cells are attracted to the site of the reaction and release chemicals called enzymes. An example of inflammation is when a person “skins a knee”; it becomes red and swollen, and oozes fluid. Inflammation occurs in the nasal and bronchial airways of persons with nasal allergy and bronchial asthma. It can result not only from allergy but also infection and exposure to respiratory irritants. **The inflamed airway becomes more sensitive to non-specific triggers** such as smog, tobacco smoke, strong odors and scents, changes in weather, cold air, etc., and more reactive to other allergens.

Control of inflammation is the key to the control of nasal allergy and bronchial asthma. Three methods are helpful:

1. **Avoidance of allergens** is the most important.
2. **Medications** such as cromolyn sodium (Intal, Nasalcrom) and corticosteroids are beneficial.
3. **Allergy immunotherapy** (allergy shots) may be helpful when the first two methods are unsuccessful.

YOU REACT TO THE FOLLOWING HOUSEHOLD TRIGGERS:

- | | |
|----------------|----------------------|
| _____ Cats | _____ Housedust |
| _____ Dogs | _____ Housedust mite |
| _____ Feathers | _____ Mold |

YOU REACT TO THE FOLLOWING POLLENS:

- _____ Trees – depending on species, January through May (acacia, elder, alder, birch, cypress/juniper, ash, walnut, privet, sweet gum, mulberry, sycamore, olive, poplar/cottonwood, oak, pine and elm).
- _____ Grasses – late April through mid-July.
- _____ Weeds – July through October.

CATS AND DOGS:

Pets should be removed from the environment. Keeping the pet in a garage or yard may not be enough. Persons caring for the animal often return to the living area of the house with pet hair and dander on their clothing, which is then distributed with housedust. Ideally, the pet should be relocated to a home where it will be happy and you can occasionally visit. After the pet is relocated, even with frequent cleanings, it takes six months or more for the hair and dander to be removed from the home. Do **not** substitute or replace one furred or feathered pet with another. Sensitivity will often develop to these new pets leading to additional allergy problems.

FEATHERS:

Even small birds produce large quantities of feather dust contaminating the circulating housedust. Besides birds, sources of feathers may include pillows, quilts, comforters and furniture cushions. If you react, all sources of feathers should be removed from the environment.

HOUSEDUST/HOUSEDUST MITES:

Housedust mites and the by-products of the mite are the most important factors in housedust, accounting for 95% of housedust sensitivity. The house dust mite is a microscopic sized bug that lives on animal (including human) scale, the scale from feathers, and the dander from furry animals. Cattle and horse hair, found in jute and hair rug pads and upholstered antique furniture, also provide food for the housedust mite. The San Francisco Bay Area climate is ideal for housedust mite growth.

The highest concentration of housedust mite is found in the bedroom as this is the largest source of human scale. The average person spends a third of his life in the bedroom. This room should be cleaned regularly. If you are allergic to housedust mite, **wear a mask when cleaning.**

Bedroom Housedust and Housedust Mite Control:

Mattress, boxsprings and pillow: Regardless of the construction, your **mattress and boxsprings** collect human scale and harbor housedust mites. Choose a **pillow** filled with a synthetic material other than foam. Feathers are a source of allergen; foam promotes the growth of mold. It is important to cover each of these items with a **zippered rubberized fabric or plastic encasement.** Inexpensive plastic covers for the mattress and boxsprings can be purchased from large department stores. For comfort these should be covered with a washable mattress pad. More expensive rubberized fabric encasements are more comfortable and suitable for pillow covers. These can be obtained from various allergy product companies.

1. ALLERGY CONTROL PRODUCTS, INC., 96 Danbury Road, P.O. Box 793, Richfield, Connecticut, 06877. Tel: 1-800-422-DUST.
2. ALLER/GUARD, 1645 South West 41st Street, Topeka, Kansas 66609. Tel: 1-800-234-0816.
3. NATIONAL ALLERGY SUPPLY INC., 4759 Ga. Highway 120, Duluth, Georgia 30136. Tel: 1-800-522-1448.

Futons: Avoid the use of futons as they cannot be covered easily with air tight encasements. Foam futons are a source of mold.

Bedding: Machine washable synthetic or cotton blankets are best. The blankets, sheets, and mattress pads should be washed at least every two weeks in hot water (**130°F. or greater**). Frequent laundering will destroy new hatches of housedust mite.

Floor Covering: Ideally **all rugs should be removed from the bedroom** as they are a rich source of human scale and housedust mite. A smooth floor (wood, vinyl, linoleum, or tile) that can be easily damp mopped is best. Throw rugs may be used, but they should be washed regularly in hot water. If you are renting and the carpeting cannot be removed, **steam cleaning** may be beneficial. Shampooing does not destroy the housedust mite.

Window Coverings: The best window coverings are simple shades or washable curtains. Avoid heavy drapes and Venetian blinds, as these harbor dust and require frequent cleaning.

Heating System: Bedroom heating vents from a recirculating heating system should be closed. Electric baseboard or similar heaters may be used. They should be a type that does not easily burn. The recirculating heater should be cleaned regularly and the filters changed every 6 to 8 weeks.

Books and Clutter: Books, clutter, bric-a-brac, toys and stuffed animals should be removed from the bedroom and stored elsewhere. **Covered** bookcases and toy boxes may be used.

Mold:

Air is never free of mold (fungus) spores. **Dark, damp and poorly ventilated areas favor both mold and housedust mite growth.** Mold is often found around window sills, in closets, on walls behind furniture, in bathrooms and in kitchens. It is important to improve ventilation by keeping a window partially open, and allowing natural light to enter the room.

Remove mold with a weak solution of bleach, “Lysol,” “Tilex,” “X-14,” trisodium phosphate (available in hardware stores, etc.), or other anti-mold agents. Bathing and cooking are important sources of water vapor in the house. The doors to these areas should be closed; these areas should be well ventilated. **Roofing and plumbing leaks** contribute to dampness and must be repaired. **Dehumidifiers** may be helpful, particularly in bedrooms, where mold control is difficult.

Closets where mold is found should be emptied and cleaned and the contents washed. Keeping a 100 watt bulb burning night and day in the closet will often raise the temperature sufficiently to prevent a recurrence of mold growth.

Houseplants and aquariums should not be kept in the bedroom. Mold often occurs on the dead leaves and soil of potted plants; they should be tended regularly. Wicker or fibrous containers should not be used. **Air currents spread mold spores.** Avoid placing plants in drafty areas or near heating and air-conditioning vents. Placing smooth stones on the houseplant soil may prevent the spread of mold spores.

Pollen:

Airborne pollen from non-flowering trees, grasses and weeds is an important source of allergy. During their pollen “season” persons who are pollen sensitive will often experience increased difficulties when they spend time outdoors, especially on windy days or during a ride in a car with the windows open. The car air-conditioner should be used.

During the “season” pollens may “**prime**” the allergic person worsening symptoms on exposure to household allergens and other non-specific irritants. On the other hand, a poorly controlled home environment may similarly “**prime**” the allergic person, worsening symptoms on exposure to pollens.

AIR CLEANERS AND CONDITIONERS:

Allergic persons living in areas of heavy pollen exposure may benefit from air cleaners or conditioners. These also reduce the amount of dust in the home environment. They are most effective when installed into the central heating system. Room style air cleaners or conditioners are not as effective but they do offer some relief; they take two or three hours to clear the air in the average room. Small desk type units are of little value. **The cost of the unit vs. benefit must be considered;** a trial rental period helps in making this decision. These units may be rented at medical supply stores or purchased at large department stores. **Avoid humidifiers;** they increase humidity which favors housedust mite and mold growth.

OTHER CAUSES OF RESPIRATORY PROBLEMS:

Other factors can precipitate symptoms that may simulate allergic conditions. Respiratory infections, cold air, and irritants in the air such as smog, smoke, strong odors, perfumes, solvents, and hair sprays, may cause nasal and bronchial symptoms or trigger previously controlled allergic problems. **A number of studies demonstrate that exposure to household tobacco smoke causes chronic asthma and nasal problems in children.**

ALLERGY SHOTS:

Environmental control is most important in the management of respiratory allergy. If symptoms persist despite environmental control and medications, allergy shots (immunotherapy) may be necessary. **If the home environment is not controlled, allergy shots will probably not be effective and may be dangerous.**



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The information presented here is not intended to diagnose health problems or to take the place of professional medical care. If you have persistent health problems or if you have further questions, please consult your health care provider.