Allergen Avoidance in the Home

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INDOOR ALLERGENS (House dust mites and pet allergens)

Asthma, allergic rhinitis and atopic dermatitis are all conditions that can be caused by the presence of allergens such as house dust mites, and pet allergens within the home.

Allergen avoidance

Once an allergy has been diagnosed by your doctor one of the most effective ways to reduce symptoms and disease severity is allergen avoidance. This will minimise the need for treatment.

Characteristics of indoor allergens

House dust mites, cats and dogs cause the most common indoor allergens. House dust mite allergens are found in beds, soft furnishings, and carpets, and become airborne only after vigorous disturbance (such as shaking out the bedcovers) and settle quickly. Symptoms, such as sneezing or wheezing will not occur on immediate contact with dust mites, but after repeated overnight exposure, while you are in bed.

Pet allergens are made up of the tiny scales of skin shed by household pets such as gerbils, hamsters, birds, cats and dogs. In contrast to mite allergens, pet allergens remain in the air for prolonged periods of time. Patients allergic to cats or dogs may develop symptoms within minutes of entering a home with these animals or simply by stroking an animal, since the large amount of allergens in the air mean that they are inhaled easily and in significant quantities.

Concentrations of indoor allergens

The highest concentration of dust mite allergens is found in beds; since you spend 6-8 hours every night in close contact with your mattress, pillow, and bedding, it is very important to try to reduce exposure to these allergens in the bedroom.

Since most exposure to pet allergens probably occurs in living areas other than the bedroom, and this must be taken into account when trying to minimise contact with pet allergens

Controlling concentrations of house dust mite allergens

Bedrooms

- The single most effective measure is to cover the mattress, pillows, and duvet with covers that are impermeable to house dust mite allergens. Fabrics are now available that are permeable to water vapour (either microporous or polyurethane coated) but also both impermeable to house dust mite allergens and comfortable to sleep on are available. The amount of allergen found in the bed decreases by up to 100-fold after such covers are introduced.
- All exposed bedding should be washed at 55°C. this kills house dust mites and removes allergen; although the "cold" cycle (30°C) of laundry washing dramatically reduces allergen concentrations most house dust mites survive it. The anti-allergen covers should also be wiped down every time you change your bedding.
- Buying a new mattress produces only a temporary benefit as reinfestation may occur within a few months from other reservoirs, such as carpets. Ideally, bedroom carpets should be replaced with sealed wooden or vinyl flooring and the curtains should be hot washed regularly or replaced with wipeable blinds.

In this way exposure to house dust mite allergens in the bedroom at night can be virtually abolished.

Rest of the house

- Frequent and thorough vacuum cleaning with high filtration vacuum cleaners reduces the amounts of house dust mite. Older vacuum cleaners should be replaced as they provide one of the few ways to get large amounts of house dust mite allergen airborne, enabling it to be easily inhaled. Sensitised asthmatic patients who have to use a vacuum cleaner should use one with a built-in 'high efficiency particulate filter' and also use double thickness bags.
- Books should be stored in an enclosed bookshelf and old newspapers and magazines thrown away.
- Keep the number of houseplants to a minimum and regularly wash any artificial plants
- Avoid stuffed toys.
- Overstuffed furniture, such as sofas and chairs, and heavy curtains harbour house dust mites. The furniture covers and curtains should be frequently washed, or replaced with a non-porous material such as dacron.

Controlling concentrations of pet allergens

Pet allergens are present in huge concentrations in houses with cats and dogs, but they are also transferred on clothing, so can still be found in homes without pets and in public buildings and transport.

If you are asthmatic, own a pet, and have developed an allergy to the animal, the best way to reduce exposure is to get rid of the pet. This is obviously not always possible, and less drastic measures can be helpful, such as those listed below:

- Ideally, carpets should be removed, as the concentration of pet allergens can be as much as 100 times higher in carpets than in polished floors. If carpets can not be removed they should be regularly cleaned with a high filtration vacuum cleaner.
- Wash your pet thoroughly and as often as possible, preferably weekly.
- Since pet allergens are airborne the use of a high efficiency particulate (HEPA) air filter, is an effective way to reduce allergens. This is not the case with house dust mite allergy since house dust mite allergen does not stay airborne.
- It is important to realise that even after permanent removal of a cat or dog from the home, it may take 6-12 months before the amount of pet allergen in the house is reduced to a normal level and there is any significant improvement in symptoms.