

Allergen Minimisation

Allergies are very common in Australia and New Zealand, affecting around 20% of people at some time in their lives. Allergy is also one of the major factors associated with the cause and persistence of conditions such as allergic rhinitis, eczema and asthma. Identifying the allergen/s causing the symptoms is an essential part of treating allergic diseases.

In some cases the offending allergen may be obvious. However, in other cases your doctor will need to consider your medical history together with the results of allergy tests (skin prick tests or allergen specific IgE blood tests), which may require referral to a clinical immunology/allergy specialist.

Once the allergens are correctly identified, the following practical advice on avoiding or minimising your exposure to known allergens may help.

House dust mites are common allergens in Australia and New Zealand

House dust mites are the most common allergen source in humid areas such as coastal cities and towns. Levels of dust mite allergies are lower in drier inland areas. There is no easy way of removing house dust mites. Regardless of what advertisements may say, there is no vacuum cleaner, dust mite spray or dry cleaning that will completely eliminate dust mites.

Depending on the severity of symptoms, and in the case of childhood asthma, eczema, chronic or recurrent sinusitis, and middle ear infections with dust mite as a provoking trigger, the following advice may help.

House dust mite minimisation

The first room to tackle is the bedroom and in particular the bedding, where we spend the greatest number of consecutive hours. A combination of the following four measures is recommended:

- **Wash sheets, pillow cases and other bedding weekly in hot water (>60°C).** This will kill dust mites and wash away the allergen they produce. If you cannot wash in hot water, use a commercial product containing tea tree or eucalyptus oils, formulated to kill dust mites in cold water. If washing normally, hot tumble drying of washed items for ten minutes after they are dry, will kill dust mites. Dry cleaning is not as effective as it will kill house dust mites but won't remove the allergen they produce.
- **Cover mattress, pillow and quilt with dust mite resistant covers.** Some health funds may provide a rebate for the purchase of these items. The covers must be washed every two months. If covers are not available, wash blankets and non-encased washable doonas every three months in hot water.
- **Remove sheepskins or woolen underlays from the bed and bedroom.**
- **Remove all soft toys from the bed and bedroom.** Replace them with wooden or plastic toys which can be washed. If keeping soft toys, wash them in eucalyptus oil weekly or place in the freezer overnight). Freezing soft toys overnight kills mites but does not remove the allergen.

The following advice can apply to bedrooms as well as other rooms in the house:

- **If possible, consider replacing carpets with hard floors** such as wood, tiles, linoleum, concrete, where practical and affordable. Carpets can contain large amounts of house dust mite and animal allergens which cannot be completely removed by vacuuming.
- **Damp dust or use electrostatic cloths** to clean hard surfaces (including hard floors) weekly.
- **Vacuum carpets weekly**, note that vacuuming increases the amount of house dust mite allergen in the air for up to 20 minutes. Where possible, ask someone else to do the vacuuming and wait 20 minutes before re-entering the room. High efficiency particulate air (HEPA) filter vacuum cleaners may remove more

allergen than other vacuum cleaners, however, they still temporarily increase the amount of dust mite allergen in the air.

- **Reduce humidity** - Where possible, have a dry and well ventilated house, and adequate floor and wall insulation. Avoid using evaporative coolers (water cooled air conditioners) and unflued gas heaters, as these both release water into the air and can increase indoor dust mite and mould levels.
- **Windows** - Venetian blinds or flat blinds are easier to clean than heavy curtains. Other options include washable curtains or external shutters.
- **Consider house dust mite avoidance measures** when building a new home.
- **Consider leather or vinyl lounges instead of cloth.**

Pet dander minimisation

Exposure to pets (such as cats, dogs, guinea pigs, horses, rabbits, mice, rats), at home or work can trigger allergic reactions in some people. Cats and dogs are a major source of allergens in the home environment. The allergens come from the sweat glands in all cats and salivary glands in all dogs. Although the amount of allergen released can vary between breeds, there are no hypoallergenic animals or breeds.

As allergens are stuck to the hair and skin of pets, the allergens become airborne when the pet sheds their hair. The allergens can remain airborne for some time. Cat allergen is especially difficult to remove from homes. It can remain in the house for months after the cat has been removed. Cat allergen can also be found in places where cats have never lived. For example, it can be carried around on clothing to schools and offices.

The most effective method of allergen avoidance for people who are allergic to pets is removal of the pets from the home. For example, if there is no doubt that cat or other animal allergen is a major cause of symptoms then the best advice is for the animal to be removed from the home. It can be an emotional decision, but removing the pet should be considered.

If pets cause only minor problems, keeping pets out of bedrooms and living areas may be a compromise. Even then, it may take months after pet removal before allergen levels are reduced. The effectiveness of some measures such as washing animals frequently and using HEPA air filters remains uncertain.

Dogs, guinea pigs, mice and rabbits are not as allergenic as cats, and are more easily kept outside, but can still cause annoying and occasionally serious problems. Horse allergy is very serious and even animal hair on clothes may be sufficient to trigger asthma. Great care must be taken to shower and change clothes before returning to a home of a person allergic to horses. Birds may occasionally cause allergic symptoms. This is a different problem to pigeon fancier's lung which is a serious condition and requires complete avoidance.

Mould minimisation

Mould in the home can show as mould, mildew or a musty smell. It is commonly found in bathrooms, refrigerators and in places with little air circulation such as walk-in and built-in wardrobes, and in bedrooms with ensuite bathrooms.

If you are allergic to mould, you may consider:

- Removing visible mould by cleaning with bleach or other mould reduction cleaners.
- Ensuring adequate natural ventilation, including the use of extractor fans.
- Sealing leaks in bathrooms and roofs.
- Clearing overflowing gutters and blocked under floor vents.
- Removing indoor pot plants (which promote mould growth).
- Drying or removing wet carpets.
- Avoiding working with garden compost, mulch or mowing lawns.

Pollen minimisation

In Australia and New Zealand the height of the grass pollen season usually occurs between late September and December, and the major amount of pollen in the air usually occurs between 6am and noon. Depending on the weather patterns, there may be an increase of pollen in the early hours of the morning.

Although pollen is known to be blown long distances on windy days, most pollen is deposited within a short distance of its source. The highest pollen counts occur on calm, hot, sunny days in late October, November and December, although in Queensland the season is different, and January is a particularly high pollen count month. Pollen allergy in tropical areas mainly occurs during the dry season. However, higher pollen counts are also associated with thunderstorms.

When pollen granules come into contact with water, starch granules are released that are small enough to be breathed into the airways, triggering allergic rhinitis (hay fever) and asthma in some people.

Avoidance of pollen is difficult but the following advice may help:

- Remain indoors (when possible) during pollen seasons, particularly on windy days or after thunderstorms.
- Avoid activities known to cause exposure to pollen, such as mowing grass.
- Shower after outdoor activities where exposure to pollen is high.
- Use re-circulated air in the car when pollen levels are high.
- Wear sunglasses (reduces amount of pollen that gets into eyes).
- Dry bedding and clothing inside or in a tumble dryer.

Seek advice from your doctor or pharmacist about medications or treatments that will relieve your symptoms.

Information about pollen counts in Australia is available at www.pollenforecast.com.au

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