

## House Dust Mites

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House dust mites are one of the most potent and common domestic and workplace triggers of allergic reactions.

Dust mites are microscopic eight-legged creatures called arachnids and they are closely related to the spider and the tick. They are found in every home and their presence is not an indication of poor cleaning!

It is not the dust mite itself which is the allergen but enzymes (proteins) found in its droppings and decaying body. The whole droppings themselves are particles between 4 and 20 microns in size but may crumble into particles as small as 0.5 microns across.

House dust mites feed upon the skin scales naturally shed by humans and other animals which are found in house dust. Although their presence is harmful to people who become allergic to them, dust mites do not bite or spread diseases.

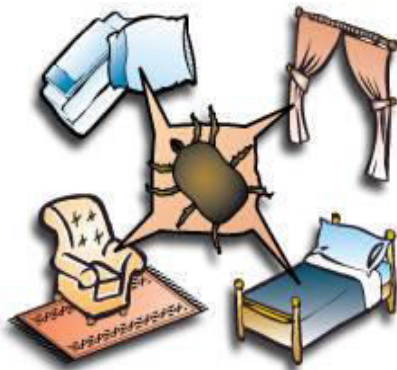
While usual household insecticides have no effect on dust mites, fortunately there are multiple ways to reduce exposure to dust mite allergens in your home.



## Dust mite allergy

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As with other allergens, dust mite allergens cause an 'over-reaction' of the immune system in an allergic person. In allergy sufferers Immunoglobulin E (IgE) antibodies present on the surface of mast cells trigger the release of histamine when allergens stick to these IgE antibodies. It is histamine that produces the characteristic symptoms of an allergic reaction.



## Dust mites love homes

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Dust mites are commonly found in bedding, mattresses, soft furnishings, soft toys and carpets. The moisture and warmth produced by your body during sleep add to the problem, making the bed an ideal environment for both creating and encountering dust mite allergen.

It is also easy to stir up dust mite allergens and make them airborne, for example walking across a carpet, getting in and out of bed or making a bed.

## **Dust mites love humidity**

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To survive, house dust mites absorb water from the air. When humidity is less than 50% they tend to dry out and die. They also prefer temperatures around 21°C (70°F).

It is thus crucial to get rid of damp in your home. Ventilate by opening windows, and check for condensation in the kitchen and bathrooms. If you live in a humid area, consider buying a dehumidifier but remember that very dry air can be uncomfortable especially if you suffer with sinus or respiratory conditions.

## **Getting rid of dust mites in your home**

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The fight is never ending - dust mites are everywhere and even if you can get rid of all of them in your home, new ones would still appear (they are carried into your home on people's clothing, for instance). So, look for long-term solutions which will reduce your house dust mite burden.

### **Cleaning Routine:**

- wash your clothes, soft toys and bed linen weekly in hot water (55°C or 130°F).
- always make sure your bedding is completely dry before putting it back -dust mites will flourish in the presence of any trace of dampness
- curtains, pillows, and duvets will need a good wash every few months as well
- vacuum floors, rugs or carpet with a vacuum that is fitted with a HEPA filter and that is leakage free
- use a good allergy air purifier (see below) to clean the air of dust mite allergens
- wipe down all furniture surfaces with a damp (but not wet) cloth on a regular basis
- make your dusting routine as thorough as you can – don't forget to go behind or under furniture, along skirting boards and picture rails, and anywhere else that dust might collect
- try adding a bit of eucalyptus oil to your duster, as this deters mites. There are also 'anti-mite' electrostatic dusters which hold onto the dust rather than spreading it around

### **Home improvements:**

These measures will create an environment that could seriously reduce the house dust mite burden in your home.

- get rid of any clutter, like piles of newspapers and books, where more dust can build up
- put ornaments into glass cabinets rather than on open shelves

- in bedrooms start afresh with a new mattress, duvet, and pillows and cover with mite allergen proof covers - research has shown this really can improve asthma in children allergic to house dust mite

However, a potential problem with allergen proof bedding is that it is often so tightly woven that it is not breathable, leading to excessive sweating and complications with eczema.

- when choosing a new bed, remember that a raised bed makes cleaning underneath, where dust collects, so much easier
- padded headboards are dust traps, and a slatted base is good because it will encourage circulation of air around the bed
- consider replacing:
  - upholstered furniture with leather or vinyl covered alternatives
  - carpets with wooden or vinyl flooring
  - curtains, which gather dust, with blinds or shutters
- seal up any cracks between boards on the floor so that dust does not come up from below
- keep walls as simple as possible to avoid ledges where dust can gather

## **Anti-mite spray and powder**

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Regular use of an anti-mite dust spray or powder can be of help. An anti-mite spray can penetrate mite reservoirs in carpets, soft furnishings and mattresses and anti-mite dry powder carpet cleaner can help get rid of mites where they nest.

When choosing allergy cleaning products, be careful to use cleaning products with natural ingredients. Spraying a chemical, especially on a regular basis, can be a severe trigger for people suffering with allergies.

## **Dust mites are not the only allergen in house dust**

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Rather than a single substance, so-called house dust is a varied mixture of potentially allergenic materials. It may contain fibers from different types of fabrics and materials such as:

- cotton lint, feathers, and other stuffing materials
- dander from cats, dogs, and other animals



- bacteria
- mould and fungus spores (especially in damp areas)
- food particles
- bits of plants and insects
- other allergens peculiar to an individual house or building

Cockroaches are commonly found in crowded cities and in, for example, the southern United States. Certain proteins in cockroach feces and saliva also can be found in house dust. These proteins can cause allergic reactions or trigger asthma symptoms in some people, especially children. Cockroach allergens likely play a significant role in causing asthma in many inner-city populations.

## Can an air cleaner help?

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While numerous manufacturers of 'air cleaners' / 'air filters' claim to be able to clear dust mite allergens from the air, they can only reduce, not eliminate, the problem, because:

- they can only clean the air that passes through them, and stratification, eddies and more means that some air in the room never passes through the filter
- they don't clean surfaces at all and it only takes a small disturbance to put settled dust mite allergens back into the air



The only technology we know of that can neutralise dust mite allergens throughout the air in the room and on surfaces is Airora's 'Hydroxyl Cascade' technology.

You can learn more about why traditional air cleaners don't work well [here](#) and why Airora's unique technology does work [here](#).