

House Dust Mite Allergy

Mites belong to the class of the arachnids and those occurring in house dust are mainly Dermatophagoides, the “skin eaters”.

House dust mites are invisible to the naked eye, 0.006 – 0.02” large, grey/white and almost transparent. Mainly responsible for the house dust allergy are Dermatophagoides pteronyssinus which can be found almost throughout the entire world, except at higher altitudes of 5000+ ft.

The life span of the male is 60-80 days while females live up to 100 days and produce a new generation of 25-50 eggs every 3 weeks.



The dust mite itself is basically harmless, however, the proteins in their droppings are a powerful allergen and can trigger allergic reactions in sensitized people. If untreated, initial allergic reactions can lead to chronic respiratory tract-disease.

Each gram of house dust contains approx. 1000 dust mites which each produce daily approx. 20 pellets of droppings with a diameter of about 10–40 μm . These pellets dry up, decompose into fine dust, float into the air and can get inhaled when fluffing up bedding or pillows or at night while sleeping.

With temperatures between 68-86°F, a relative humidity of 65-80% and the presence of mold and food, beds offer the ideal environment for house dust mites to thrive and re-produce. They eat the mold that grows on human skin scales. The skin scales cannot be directly digested by the mites but need to be modified by the molds and as their share of this symbiotic partnership the mites transport the fungus spores to a suitable germination place. Every human loses approx. 1 gram of skin scales within 24 hours – this quantity is enough to feed approx. one million mites.

Note 1: It is impossible to completely eliminate house dust mites – they, like mold – are ubiquitous in our environment. The goal is to keep their population as limited as possible by making their environment as inhospitable as possible.

Note 2: Dust-mite covers are of very limited effect. They protect the mattress (and/or pillow) but not the sleeper from the allergen and are not addressing the origin of the problem.

First symptoms of a house dust mite allergy are:

Watering eyes, sneeze attacks, itchy skin, eczema

If untreated the following serious diseases can develop:

Bronchial asthma in the form of acute bronchial spasms with swelling of the bronchial mucous membrane due to inflammation and increased mucus production and –secretion, chronic asthma.

Scientific studies with allergy sufferers have shown that a reduction of allergens in the living environment will eliminate/ reduce allergic symptoms.

It is recommended that you:

- Change bedding at least once a week and wash at 140°F for a minimum of 30 minutes
- Reduce humidity in the bed by leaving sheets/ blankets folded back from the mattress during the day
- Reduce humidity in the bedroom by daily airing and/or using a humidifier
- Keep the room-temperature cool (under 68°F)
- Frequently vacuum using a vacuum cleaner with a micro filter
- Frequently dust with a damp cloth
- Remove carpets and curtains where possible

Sources:

- 1) University of Berlin, University Clinic Benjamin Franklin, Institute for clinical physiology, Pathophysiological seminar WS 00/01
- 2) Lungen- und Bronchialheilkunde (Medical science for lung and bronchial diseases), Bochum, Drs. Querfurt, Otto, Hoster
- 3) I.G.A.V. Interessengemeinschaft Allergenvermeidung (Syndicate for allergen avoidance)