



Dust Mite Allergen Fact Sheet

About dust mite

Dust mites are an important cause of allergies worldwide, and those allergic to them may experience symptoms after inhaling dust mite particles.¹ Estimates indicate that 10 percent of the world's population is allergic to dust mites, but up to 90 percent of people with allergic asthma in some regions are sensitized to them.² And for those exposed to high levels of these allergens, the risk of developing asthma increases roughly five fold.³ Along with inhaling dust mite particles, eating foods made with mite contaminated wheat flour can also cause reactions, including anaphylaxis.¹

Dust mites are a type of arachnid, much like spiders and ticks; however, unlike their relatives, mites don't bite humans.^{2,4} Instead, these tiny blind creatures dine on microscopic skin scales and fungi.³ And given their size, a single gram of dust can contain up to 19,000 mites.² But it's not so much the mites themselves that are the problem. Rather, it's their excrement, as 95 percent of dust-mite allergens are a result of mite fecal particles.¹ The most recognized house dust mites species are *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, and *Blomia tropicalis*.⁴

Optimal temperatures for dust mite growth are roughly 18 to 27 C (approximately 65 to 80 F).⁵ Additionally, dust mites require a humidity level of at least 40 percent to survive.² So temperature and humidity levels can significantly impact dust mite populations.³ Additionally, dust mite allergens typically increase in the summer when humidity levels are higher, and they remain elevated through the winter before dropping off late winter and spring.⁵

Where is dust mite found?

While dust mites are almost nonexistent in homes in arid climates, they thrive in warm humid environments, where they can cause year-round symptoms.^{2,6,10} In fact, roughly 84 percent of U.S. homes have detectable levels of dust mites, and older homes and those whose occupants have lower income levels generally have higher dust mite concentrations.⁹ Within dwellings, mites thrive in mediums such as mattresses, pillows, bedding, stuffed animals, upholstered furniture, and carpet.^{3,10}



HOW DO I KNOW IF I'M ALLERGIC?*

Together with your symptom history, skin-prick testing or specific IgE blood testing can help determine if you are allergic to a particular allergen. If you are diagnosed with an allergy, your healthcare provider will work with you to create a management plan.

COMMON SYMPTOMS

Symptoms of dust mite allergy can include:⁷

- Sneezing
- Runny nose
- Itchy, red, or watery eyes
- Nasal congestion
- Itchy nose, mouth, or throat
- Postnasal drip
- Cough
- Facial pressure and pain
- Swollen, blue-colored skin under the eyes

In addition, dust-mite allergy is an especially important risk factor for patients with rhinitis and asthma.⁴ In fact, if you have asthma, you may also experience symptoms such as:⁷

- Difficulty breathing
- Chest tightness or pain
- Wheezing or whistling sound upon exhalation
- Trouble sleeping caused by shortness of breath, coughing, or wheezing
- Bouts of coughing or wheezing that are worsened by a respiratory virus (e.g., cold or flu)

Oral mite anaphylaxis can occur when those allergic to dust mites consume mite contaminated wheat flour. The condition is most often triggered by pancakes and as such has been referred to as pancake syndrome. Other foods incriminated in this syndrome include sponge cakes, beignets, okonomiyaki (bonito and mackerel covered with flour), cornmeal cakes, polenta, pizzas, pastas, breads, parmigiana steaks (prepared with grated bread), and white sauces. Plus, mites can sometimes contaminate products stored at room temperature, such as cheese, ham, chorizo, and salami.⁸

Symptoms of pancake syndrome can include:⁸

- Breathlessness
- Angioedema (aka swelling)
- Wheezing and whistling sounds while breathing
- Runny nose
- Cough
- Difficulty swallowing
- Urticaria (aka hives)
- Anaphylaxis, a potentially life threatening event



IS THERE A RISK FOR A SEVERE EVENT?

In severe cases, dust mite allergy can be chronic, resulting in persistent sneezing, cough, congestion, facial pressure, or severe asthma attack.⁷ Most often, dust mite allergy symptoms are caused by inhaling dust mite particles. However, eating foods made with mite-contaminated wheat flour can also cause reactions, including anaphylaxis.¹

How do I manage my allergy?

If you are allergic to dust mite, your healthcare provider may recommend a plan that includes the following.^{3,4,10-13}

Exposure reduction

Dramatically decreasing exposure to dust mite allergens can help both related asthma and rhinitis symptoms.⁴

- Encase mattresses, box springs, and pillows in special allergen-proof fabric covers or airtight, zippered plastic covers.
- Avoid using down pillows or comforters.
- Wash bedding weekly in temps of 54 C (roughly 130 F) or more and dry them in a hot dryer.
- Remove dust-mite reservoirs such as stuffed animals from beds.
- Keep humidity levels to less than 50 percent.
- Vacuum regularly with a HEPA filter bag.
- Remove upholstered furniture, drapery, carpeting, and rugs, and opt for smooth flooring such as hardwood or tile.
- Use damp mops and rags to remove dust, as dry versions may stir up mite allergens.

Symptom relief

Your healthcare provider may direct you to take one of the following medications to improve your allergy symptoms:

- Antihistamines are commonly used to reduce symptoms such as sneezing, itching, and runny nose.
- Nasal corticosteroids are used to reduce swelling in the nose and block allergic reactions.
- Decongestants can be employed to relieve stuffiness.
- Commence allergen immunotherapy as directed by your healthcare provider, with the objective to develop tolerance to dust mite exposure.

Emergency plan

If you're with someone who's having an allergic reaction and shows signs of shock, act fast. Look for pale, cool, and clammy skin; a weak, rapid pulse; trouble breathing; confusion; and loss of consciousness. Do the following immediately:

- Call local emergency services.
- Ensure the affected individual is lying down with legs elevated.
- Administer epinephrine immediately for any obvious signs of a potentially severe systemic reaction.
- Check the person's pulse and breathing and administer CPR or other first-aid measures if necessary.

Already have your specific IgE component test results?*

Your component test results will include the name of the components (a series of letters and numbers). Your healthcare provider will likely review the results with you, but here you'll find an at-a-glance breakdown you can use as a reference. Simply match the component names to the list below to see what they mean in terms of symptom management.⁴

rDer p 1, rDer p 2, rDer p 23

- Indicates that the symptoms may be caused by dust mites.
- Strongly associated with asthma.
- Dust mite immunotherapy may be an option, if positive to Der p 1 and/or 2.

rDer p 10

- Due to cross reactivity, symptoms may be caused by cockroaches, shellfish, and helminths (e.g., *Ascaris lumbricoides*) as well as different types of dust mites.

Are there other allergens I could be sensitized to?*

Many patients with dust mite allergy can experience symptoms when exposed to other allergens such as different species of dust mites, cockroaches, shellfish, and helminths (e.g., *Ascaris lumbricoides*). This is called cross reactivity and occurs when your body's immune system identifies the proteins, or components, in different substances as being structurally similar or biologically related, thus triggering a response.⁴

Knowing the proteins, or components, within each allergen that are triggering your symptoms can help guide your management plan. With that in mind, and based on your symptom history, your healthcare provider may suggest something called a specific IgE component test, which can help reveal your specific risk profile concerning dust mite. Results from this test can also help your healthcare provider decide if allergen immunotherapy may reduce your symptoms.⁴

View all references at the bottom of the online allergen fact sheets at [AllergyInsider.com](https://www.allergyinsider.com) >

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