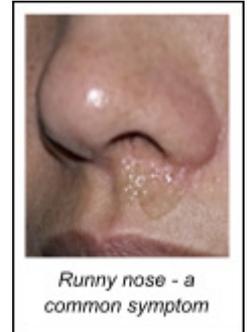




Allergy to House Dust Mites (HDM) is indeed a very common phenomenon. In fact, HDM play a very important role in causing allergic rhinitis (AR), bronchial asthma and eczema.

How Do You Know You Have HDM Allergy ?

While spring-cleaning your room, sweeping the floor, changing the bed sheets, dusting your old favourite story books, or entering a dusty environment, you suddenly begin to feel that your nose is blocked and runny. Your eyes are itchy and tears roll down as you sneeze violently.



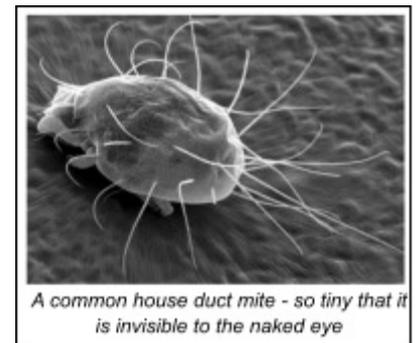
You may well have an allergy to dust or more accurately... dust mites.

Upon consulting your doctor, he/she suspects that you have HDM allergy. Of course, additionally, HDM allergy can also be confirmed with a skin prick test (SPT) or a blood test, as advised by your doctor.

Know Thy Enemy !

The 3 commonest HDM are called:

- *Dermatophagoides pteronyssinus*,
- *Dermatophagoides farinae*
- *Blomia tropicalis*



Now, how big or rather, how small are they? Imagine this...

- Paper thickness is about 100 microns (or 0.1 millimeter). [1 micron or micrometer = a millionth of a meter.]
- The diameter of human hair is about 40 -120 microns. (0.04-0.12 millimeter)
- A typical HDM is about 250-300 microns (0.25-0.3 millimetres) in length and width. Due to their very small size and translucent bodies, HDM are not visible to the unaided eye.

Our warm and humid tropical climate is also very suitable for the HDM to thrive very well. They grow best at humidity about 70% and temperature above 23 °C. A mated female HDM can lay 60 to 100 eggs in the last 5 weeks of her life. In a 10-week life span, a HDM will produce approximately 2,000 allergenic (substance that can induce an allergic reaction) faecal particles and an even larger number of partially digested enzyme-covered dust particles. The faecal material is then inhaled into our airways, resulting in allergic response in our airways (nose, throat, lungs).

So imagine the number of HDM on your mattress and your bedroom ! Millions ? Trillions?!

They are everywhere... A gram of dust can contain up to 1,000 HDM and 250,000 faecal droppings !



VINCENT'S S.C.A.N.S. EAR, NOSE AND THROAT, HEAD AND NECK SURGERY CLINIC

Assoc. Prof. Dr. Vincent Tan

Consultant Ear, Nose and Throat (Otorhinolaryngology), Head and Neck Surgeon

MD (UKM), A.M. (Mal), MS ORL-HNS (UKM), DOHNS RCS Edinburgh (UK), MRCS Edinburgh (UK), Postgrad. Cert. in Allergy (UK)

Fellowship in Rhinology (Singapore)

Fellowship in Head and Neck Oncology & Surgery (Amsterdam)

Contact: +6012-3760 728 Email: ENTdrvincenttan@gmail.com

www.entheadandneckspecialist.com

As if that is not bad enough, our shed skin squames/scales provide the main food supply for the HDM ! In fact, 2 of the 3 commonest types of HDM are named after this habit – '*Dermatophagoides*' actually mean "skin eaters" !

We also spend about 1/3 of our every day in our bedroom, making avoidance of these HDM and their allergenic material almost impossible. However, much can be done to minimize your exposure to these creatures. Therefore, if you have allergy to HDM, it is important to effectively reduce your exposure to the HDM. While compliance to medication is essential, these environmental measures will help to reduce your contact with the HDM too.

Remember, not only must you kill the live HDM, you must also remove their allergenic waste product, even if the HDM is already dead !

DO NOT UNDERESTIMATE THESE ENVIRONMENTAL MEASURES. (speaking from personal experience as a patient) as they can be very helpful to improve your allergic symptoms.

Ways to Reduce Dust Mite Exposure:

➤ Reduce Indoor Dust

- Clean and wipe the room regularly –Wet-mop and vacuum frequently to minimise dust collecting, especially areas prone to dust collection. eg. above the fan blades
Wear face mask during cleaning to avoid inhaling allergens.
- Use vacuum cleaners that have "high-efficiency particulate arresting" (HEPA) filters installed.
Conventional vacuums are very "inefficient."
Vacuuming is only effective for removing dead mites and HDM faecal particles. The live HDM can resist eviction as they possess claws that allow them to latch on tightly or they might also burrow deeper into the material.
Furthermore, you will merely be displacing the dust particles as it escape airborne from the other end of your vacuum cleaner into another part of your room.

Water-based vacuum cleaners are also not advisable as they have been found to be extremely poor filters.
- Change bed linens every week, pillow cases daily and wash bedding in hot water (>60°C) every 2 weeks to kill mite. Alternatively, encase pillows in zippered, dust-proof covers.
- Replace woollen blankets with nylon/cotton cellulose ones.
- Remove carpets, rugs and replace floor with hard wood, vinyl or tile.
- Remove thick elaborate curtains, venetian blinds, drapes, wall hangings and other dust accumulators (eg. potpourri flowers, picture frames). Use window shades instead.
- Redesign your room and/or rearrange your furniture so that the room is easy to clean and clutter-free. Hidden and hard-to-clean corners accumulate dust naturally.

This information is for general educational purposes only. Each patient responds to treatment differently and results may vary.
For specific details about your condition, please discuss with your doctor.



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- Tuck away infrequently-used personal items in a closed shelf/cupboard.
- Replace soft toys (eg. teddy bears) with metal, wooden and plastic ones or alternatively...
If separation is too painful for the child (or even adult !),
use only washable soft toys -tumble stuffed animals in dryer weekly on hot cycle or ..
keep the soft toys in a clear plastic bag.



- Use anti-dust mite pillows and mattress covers. This range of beddings employs tightly-woven microfabric that blocks allergen.
Wash mite-proof beddings at least every 6 to 8 weeks
 - Permethrin-impregnated bedding material can be an option to reduce exposure to HDM.
 - Use electrostatic or high-efficiency particulate arresting (HEPA) filters.
HEPA filters trap particles as tiny as 0.3 micrometers (μm)/ microns in diameter with an efficiency rating of 99.97%.
 - Medical-grade "True HEPA" filters, known to be even more efficient than HEPA filters, are also available in the market now.
True HEPA is the highest grade of filtration.
- **Reduce Indoor Humidity (< 50%).** [HDM survives well in environment of higher humidity and warmer temperature.]
- Install an air conditioner, dehumidifier. Keep the room humidity at about 40-50%.
 - Eliminate/minimize houseplants. They increase the moisture in the room
 - Ventilate home –open the windows regularly. Besides bringing in fresh outside air rather than recirculating dirty air, some direct sunlight at least for 3 hours would be useful.
- **Reduce Indoor Pets:** People allergic to their pets should remove the animals from the house, if possible, or at least keep the animals out of the bedroom. Wash pets frequently to minimize the amount of allergens on their skin. The HDM also feed on the squames/scales from the pets.
- **Use approved pesticides for HDM**
- acaricides (e.g. benzyl benzoate -Acarosan®) to kill HDM, and
 - antigen-denaturing agents (e.g. tannic acid).