

## **Pillows and allergies**

House mite dust in pillow fillers can be a cause of allergic reactions such as conjunctivitis, rhinitis and asthma.

- They belong to the spider family - but can only be seen with a microscope.
- They prefer warmth and moisture, a temperature of 20-25° C and humidity above 50%.
- Mites live in beds, carpets, upholstery and stuffed toys where they feed on dead human skin and produce waste called faecal pellets. Allergy problems are mainly caused by the faecal pellets.
- Dust mites can live for up to 6 weeks. Each female may lay 40-80 eggs.
- One mite may produce 20 faecal pellets a day and the pellets remain long after the mite is gone.
- A person allergic to dust mites should try to avoid them. This may decrease problems and the need for medicine.

It has been recommended that people with asthma and other allergic reactions avoid feather pillows and instead use synthetic polyester filled pillows. However, recently it has been reported that the use of non-feather pillows is positively associated with childhood wheeze. This section describes studies regarding pillow content and respiratory symptoms.

- Butland et al (1997) undertook prevalence surveys of asthma and/or wheeze among children aged between 7.5 and 8.5 years attending state and private schools in the London Borough of Croydon in 1978 (N=4,147) and 1991 (N=3,070). Information on exposure to potential indoor environmental risk factors was obtained from parents by home interview and compared between groups of identified frequent and infrequent

asthma or wheezing cases and the control group. Use of a non-feather pillow was positively associated with childhood wheeze even after adjusting for other risk factors. Despite decreased use of feather pillows the rate of wheeze and asthma had increased by 20% between the two surveys.

- Hallam et al (1999) in New Zealand, randomly distributed 150 questionnaires to homes regarding pillow type and age. In those homes where two pillows, one feather and one synthetic fibre, had been in use on the same bed by the same individual for greater than two years (N=15) a dust sample was taken from each pillow. Total dust-mite allergen levels were shown to be approximately five times higher in the synthetic pillows when compared to the feather pillows.
- Rains et al (1999) provided 12 households in Wellington, New Zealand with a pair of new pillows, one feather and the other synthetic. Dust samples were collected before placement and after three, six, nine and 12 months by vacuuming each pillow. After 12 months the synthetic pillow contained higher concentrations of house mite dust allergens than the feather pillows. There was a significant correlation between the house mite dust concentration of the mattresses at the beginning of the study and the level of allergens accumulated by both pillows.

It has been suggested that this difference in house mite dust allergen level may be due to the tightly woven fabric used to encase feather pillows which may act not only to prevent feathers extruding from the cover but as a barrier to house dust mite (Hallam et al 1999, Rains et al 1999, Halcken et al 2003).

- Buckwheat chaff filled pillows have also been associated with nocturnal asthma in children. Lee et al (2001) reported three case studies where children who presented with asthma were positive to buckwheat flour allergen. Elimination of the buckwheat pillow from the home environment decreased asthma symptoms and bronchial provocation

tests confirmed that buckwheat flour allergy was responsible for the asthma.

- Foam pillow use has also been found to increase the risk of asthma when compared to natural fibre pillows like cotton and feather. Researchers are unsure why but suggest that it may be related to hydrocarbon coming off the foam or the use of a loose type of pillow cover that does not prevent leakage of the allergens from the pillow (Wong et al 2004).

So if you are allergic to house dust mite, regardless of your pillow type, you should:

- Encase the pillow with an airtight, dust-proof cover.
- Wash the dust-proof cover with the bedding.
- Wash bedding once a week in hot water and dry in a hot dryer for at least 45 minutes.
- Put pillows, blankets and comforters in the dryer on the hot cycle for 45 minutes every two weeks. If the pillow is unable to be placed in the dryer put it outside on a sunny windy day.
- Replace pillows every 2-3 years.

*You may find it useful to link to these sites to read more about asthma and allergies:*

[www.asthma-education.com](http://www.asthma-education.com)

*Publications consulted in the preparation of this information sheet*

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