



Allergens in the Home

Australia and New Zealand continue to have among the highest rates of asthma and allergies globally. Inhalable substances known as allergens—such as those from house dust mites, cockroaches, grasses, pollens, moulds, mildew, and pets like dogs, cats, and birds—can trigger respiratory issues. Other common triggers include exercise, cold air, tobacco smoke, workplace pollutants, certain foods, medications, viral infections, chemical odours, and emissions from cooking appliances and heaters.

There's a common misconception that carpets in the home inherently increase exposure to allergens like dust mites, potentially worsening asthma. However, the latest evidence and guidelines from the National Asthma Council Australia (NACA) show this isn't necessarily the case when carpets are properly managed. The Australian Asthma Handbook 2025 (NACA's national guidelines for asthma management) emphasises that routine allergen avoidance or reduction measures are not recommended for people with asthma. Allergen mitigation should only be considered for individuals with proven sensitivity to a specific allergen that is a clinically significant trigger, and only where strategies are likely to be effective and feasible. Most single or broad avoidance measures (including many home modifications) lack evidence of clinical benefit for asthma symptoms or exacerbations. Well-maintained carpets can actually trap allergens within the pile, preventing them from becoming airborne—often performing similarly to or better than hard floors in real-world settings. The Handbook explicitly notes that clinical trial evidence does not support replacing carpet with hard flooring as a strategy to reduce allergen exposure or improve asthma outcomes (e.g., in pet-allergic patients).

How are we exposed to dustmite allergens in the home?

Live dust mites are naturally present in homes, inhabiting areas like bedding, curtains, soft furnishings, flooring, soft toys, and clothing. Importantly, live dust mites are harmless; allergic reactions occur only from inhaling airborne allergens, such as their faecal matter or fragments of dead mites.

Bedding remains the primary habitat for dust mites due to its protected, humid, and nutrient-rich environment (dust mites feed on shed human skin). This makes bedding the main site of prolonged exposure, given close contact with the nose and mouth during sleep.

Dust mites can be present in carpets, but allergens are largely harmless when trapped within the carpet pile. The Australian Asthma Handbook 2025, along with aligned international guidelines (e.g., GINA 2025 and NAEPP 2020), confirms that evidence for carpet removal as an asthma improvement strategy is limited and inconclusive. Single interventions show little benefit; multi-component, personalised approaches tailored to confirmed sensitivities are preferred.

"No significant different [in airborne dust levels] was found between carpeted and non-carpeted homes."

Dingle P, "A study of dust levels between homes containing wall-to-wall carpeting and homes with hard floor surfaces", *Research Study*, School of Environmental Science, Murdoch University, 2001



How can you reduce indoor allergen levels?

According to the Australian Asthma Handbook 2025, allergen reduction should be personalised, evidence-driven, and part of a multi-component plan—focusing only on confirmed triggers (via medical history or testing) rather than broad assumptions. For those not sensitised to indoor allergens, no specific interventions are typically needed. Drastic changes like carpet removal are not supported by evidence. If you're sensitised to specific allergens, work with a healthcare professional to prioritise feasible strategies. Here are evidence-based recommendations aligned with NACA guidance:

Bedding

- Wash bedclothes regularly in hot water (hotter than 60°C) to kill dust mites and remove allergens.
- Air mattresses, pillows, and bedclothes regularly, ideally in direct sunlight, to lower humidity and mite populations.
- For those with confirmed dust mite allergy, consider allergen-impermeable protective covers on mattresses, quilts, and pillows (note: these are more effective as part of multi-component approaches rather than alone).
- Use bedding products with anti-microbial treatments where appropriate.

"We think that families with asthma should avoid drastic lifestyle modifications [such as removing carpets]."

Marks GB and Abramson MJ, "House dustmite avoidance: facts & fiction", *Asthma Update*, June 2001.

Flooring

- Vacuum floors regularly using a cleaner with a HEPA filter to capture allergens effectively. Ask someone else to vacuum if possible, and leave the room for 20 minutes afterward as disturbance can temporarily increase airborne particles.
- For carpets, professional cleaning every 12–18 months (e.g., hot-water extraction) helps maintain low allergen levels.
- Consider carpets certified under NACA's Sensitive Choice program (look for the blue butterfly logo), which meet standards for low VOC emissions, mould resistance, and easy cleanability. These can include antimicrobial treatments or hypoallergenic fibres like wool or synthetics. Modern, well-maintained carpets can help trap allergens rather than release them.

Other steps

- Promote air circulation by opening windows and doors to reduce indoor humidity and facilitate fresh air exchange—key for preventing mould and mildew.
- Vacuum curtains and soft furnishings regularly and have them professionally cleaned periodically.
- Place children's soft toys in direct sunlight regularly or wash them as appropriate (hot wash >60°C or freeze overnight to kill mites, though freezing does not remove allergens).
- Wash clothing promptly after wearing to minimise allergen accumulation.
- Maintain indoor humidity below 50% using dehumidifiers if needed, especially in humid regions, to deter dust mites and mould.

- For pet allergens, regular grooming and restricting pets from bedrooms can help (evidence does not support pet removal or carpet replacement alone). These multi-component approaches—combining cleaning, humidity control, and targeted avoidance—are preferred over single actions, as they align with the latest NACA and international guidelines. For example, integrated pest management for cockroaches or mould prevention through dry environments is supported where relevant.

Managing a respiratory condition

Effective management of conditions like asthma relies on knowledge, identifying personal triggers (via testing if needed), and professional medical guidance. Work with your doctor to recognise early symptoms and develop an individualised Asthma Action Plan, including appropriate medications per the Australian Asthma Handbook 2025 recommendations.

The Carpet Institute of Australia supports evidence-based choices for healthier homes. Well-maintained carpets, especially those designed for allergen control (e.g., Sensitive Choice certified), can contribute to better indoor air quality by trapping particles. For more information, visit our website or consult NACA resources (including the Australian Asthma Handbook and dust mite fact sheets at nationalasthma.org.au). Always seek advice from healthcare professionals for personalised recommendations.

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