

Killing house dust mites on children's soft toys

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Infestations of house dust mites on children's soft toys can be eradicated by freezing, hot tumble drying or washing with eucalyptus oil and detergent according to new research by the University of Otago, Wellington.

The study has just been published in *Paediatric Allergy and Immunology* and has been carried out in association with colleagues at the Changhua Christian Hospital, Taiwan.

House [dust mites](#) (HDM) and their allergens are a serious issue for asthmatics and are strongly associated with the development of asthma in children. The severity of asthma shows a dose-response relationship according to the number of house dust mites a child is exposed to when sleeping with soft toys.

“Children frequently sleep with their favourite toys close to their airways and this may be important for HDM-sensitised asthmatic children,” says Associate Professor Rob Siebers.

The aim of the study was to determine whether freezing of soft toys overnight, or hot tumble drying for one hour, or adding eucalyptus oil when washing actually kills house dust mites. The study looked at 36 toys in three groups of 12.

“The results are very positive, and we found the vast majority of house dust mites on the soft toys used were killed by either one of these three

methods,” says Associate Professor Siebers.

Freezing of toys for at least 16 hours at -15°C resulted in a 95% reduction of HDM, hot tumble drying for one hour reduced mites by 89%, and soaking in an emulsion of eucalyptus oil and liquid detergent for one hour, then rinsing and drying, also resulted in a HDM reduction of 95%.

“Washing and soaking with eucalyptus oil and detergent is very effective in not only reducing live mites, but also reducing house dust mite allergens, compared to freezing and tumble drying,” he says. “Of the 12 toys studied, 10 showed no live mites at all after washing with eucalyptus oil and liquid detergent.”

Associate Professor Siebers says all three methods are more effective than just washing toys, because water needs to be above 55°C to kill HDMs, and this is usually too hot and damages the toys.

“My advice for parents is to either tumble dry for one hour, or freeze the soft toy overnight, and then wash it in a cold wash to remove any allergens.”

However, Associate Professor Siebers says that the effectiveness of these three methods can vary according to the thickness of the material with which the toys are made.

Another issue not covered in the study, is how quickly soft toys are re-colonised by house dust mites, and further research would be useful to determine how often a toy should be treated to control infestation.

Provided by University of Otago

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