
Children's Environmental Health Research Findings
August 2017

Topic: Indoor mold and wheezing

Title: Indoor visible mold and mold odour are associated with new-onset childhood wheeze in a dose dependent manner.

Conclusion: No association was found between atopic status and mold, which suggests a non-allergic association between mold exposure and new-onset wheeze.

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Abstract: Evidence is accumulating that indoor dampness and mold are associated with the development of asthma. The underlying mechanisms remain unknown. New Zealand has high rates of both asthma and indoor mold and is ideally placed to investigate this. We conducted an incident case control study involving 150 children with new-onset wheeze, aged between 1 and 7 years, each matched to two control children with no history of wheezing. Each participant's home was assessed for moisture damage, condensation and mold growth by researchers, an independent building assessor and parents. Repeated measures of temperature and humidity were made and electrostatic dust cloths were used to collect airborne microbes. Cloths were analysed using qPCR. Children were skin prick tested for aeroallergens to establish atopy. Strong positive associations were found between observations of visible mold and new-onset wheezing in children (adjusted odds ratios ranged between 1.30 - 3.56; $P \leq 0.05$). Visible mold and mold odor were consistently associated with new-onset wheezing in a dose-dependent manner. Measurements of qPCR microbial levels, temperature and humidity were not associated with new-onset wheezing. No association was found between atopic status and mold, which suggests a non-allergic association between mold exposure and new-onset wheeze.