

Mold exposure during infancy increases asthma risk

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Infants who live in "moldy" homes are three times more likely to develop asthma by age 7—an age that children can be accurately diagnosed with the condition.

Study results are published in the August issue of *Annals of Allergy, Asthma & Immunology*, the scientific journal of the American College of Allergy, Asthma and Immunology (ACAAI).

"Early life exposure to mold seems to play a critical role in childhood asthma development," says Tiina Reponen, PhD, lead study author and University of Cincinnati (UC) professor of environmental health.

"Genetic factors are also important to consider in asthma risk, since infants whose parents have an allergy or asthma are at the greatest risk of developing asthma."

UC and Cincinnati Children's Hospital Medical Center researchers analyzed seven years of comprehensive data for 176 children to evaluate the effects of mold exposure in early life.

The children were part of the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS), a long-term population-based study that included more than 700 children from the Greater Cincinnati area. CCAAPS looked at the effects of environmental particles on childhood [respiratory health](#) and allergy development. Participants were identified during infancy as at high risk to develop allergies based on family medical history.

Mold exposure levels were measured using a DNA-based analysis tool developed by the U.S. Environmental Protection Agency (EPA)—the environmental relative moldiness index (ERMI). The tool combines results of the analysis of 36 different types of mold into one index, which describes the mold burden in the homes. This index was used to determine the impact of mold exposure on the respiratory health of study participants.

Eighteen percent of children enrolled in CCAAPS were found to be asthmatic at age 7.

It is estimated that about 9 percent of school-age children in the United States will develop asthma; however, studies have shown that rates are often higher in children from poor, urban families. The disease cannot be accurately diagnosed until age 7 and the causes are not completely known.

”The symptoms of pediatric asthma range from a nagging cough that lingers for days or weeks to sudden episodes of shortness of breath and wheezing that require emergency treatment,” says allergist David Bernstein, MD, study co-author, UC professor of internal medicine and ACAAI fellow. “If a young child’s symptoms persist and keep coming back, that’s a clue that it could be asthma.”

According to the ACAAI, common symptoms of asthma include:

- Coughing, especially at night
- Wheezing or whistling sound, especially when breathing out
- Trouble breathing or fast breathing that causes the skin around the ribs or neck to pull in tightly
- Frequent colds that settle in the chest

”This study should motivate expectant parents—especially if they have a

family history of allergy or asthma—to correct water damage and reduce the mold burden in their homes to protect the respiratory health of their [children](#),” adds Reponen.

More information: www.aaaai.org/allergist/Pages/default.aspx

Provided by University of Cincinnati

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