

## Mice May Add to Inner City Asthma Woes

For people living in the older homes of the inner city, mice are an annoying fact of life. To add insult to injury, they may join cockroaches as part of the inner city asthma problem: People exposed to them are likely to develop mouse allergy, especially if they already have allergies, and allergies often go hand-in-hand with asthma.

The vast majority of inner-city homes may have mouse allergen, and those exposed to it have a strong chance of becoming allergic to mice, according to researchers who published two studies in the most recent issue of the *Journal of Allergy and Clinical Immunology*. An allergen is a substance that is harmless in nonallergic people, but it causes an allergic reaction, such as a runny nose, itching eyes, or breathing problems, in a person allergic to the substance. In mice, the allergen is present in their urine as well as their dander, the particles of skin that they shed. It makes sense to suspect mouse allergen for several reasons, says Robert A. Wood, MD, who was a lead investigator for both studies. "In laboratories, lots of employees develop allergies to mice and can have asthma problems. However, there were no studies on mice in the home environment," Wood tells WebMD. He is an associate professor of pediatrics at Johns Hopkins University School of Medicine in Baltimore. He and his co-authors worked with investigators associated with the National Cooperative Inner-City Asthma Study. "Finding the mouse allergen was not a huge surprise, because our patients complain of mice in the homes and because we knew of the problem of mouse allergy in laboratory," he says. "People take a lot of medicine for allergies and asthma but have a hard time reducing their allergen exposure. When we look at the environment, we now need to add mice to the picture. One problem with inner-city dwellings is that the degree of mouse infestation can make the problem extraordinarily difficult. With multiple dwelling units, animals can move from one place to another." In future studies, he and colleagues hope to find effective ways to eliminate mice from these homes, he says. A gathering of house dust samples showed that mouse allergen is "widely distributed" in inner-city homes, the investigators report. They drew on a study population of over 1,500 children aged 4 to 9 years old who lived in eight major inner-city areas and had been diagnosed with asthma. Among these children, almost all their homes had detectable mouse allergen, ranging from three-quarters of the homes in Cleveland to all of those in Baltimore. Particularly high mouse allergen levels were also associated with another inner-city asthma offender, cockroach infestation. In the study on mouse sensitivity, the investigators found that about one in five of the nearly 500 children eventually studied had a positive mouse skin test. Among children living in homes with high mouse allergen levels in the kitchen, one-quarter were allergic. Among children with other allergies and high mouse allergen levels in their homes, just over half were allergic to mice. "I was surprised. These findings are very, very important because mouse allergen may be overlooked," Clifford Bassett, MD, tells WebMD. "I'd like to see these studies get as much attention as possible, because the solution is relatively easy: Get rid of the mice. I applaud the investigators for studying this topic. The public needs to know that all animals can cause an allergic reaction, whether it's a mouse, cockroach, cat, or bird." Bassett, who was not involved in the current research, is an allergist on the faculty at New York University Medical Center in New York City, where he is the medical director of Allergy and Asthma Care of New York.