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**RATIONALE:** Although there is evidence that contact with mice is associated with IgE-mediated mouse sensitization and mouse-specific antibody responses, the exposure-response relationship remains unclear. To determine if IgE-mediated mouse sensitization and mouse-specific IgG and IgG<sub>4</sub> increase with increasing Mus m 1 exposure among employees of a mouse research and production facility.

**METHODS:** One hundred and fifty-one workers at a mouse facility were studied. Airborne concentrations of Mus m 1 were measured throughout the facility and exposure assignments were made by linking each participant to the Mus m 1 measurement obtained in his/her work area. Cumulative exposure was estimated by multiplying airborne Mus m 1 concentration by duration of employment. Serum mIgG and mIgG<sub>4</sub> were quantified by antigen binding assays and IgE-mediated mouse sensitization was assessed by skin prick testing.

**RESULTS:** Twenty-two percent of participants had evidence of IgE-mediated mouse sensitization by skin testing. High levels of mIgG and mIgG<sub>4</sub> were increasingly common by quintiles of increasing cumulative exposure. Mouse sensitization increased from 9.4% in the lowest quintile to 44.4% in the highest quintile of cumulative exposure. After adjusting for age, gender, and atopy, cumulative exposure remained an independent predictor of IgE-mediated mouse sensitization (OR 1.7, 95% CI [1.2, 2.5]) and high mIgG (OR 1.7, 95% CI [1.2, 2.4]).

**CONCLUSIONS:** IgE-mediated mouse sensitization, mIgG, and mIgG<sub>4</sub> were related to cumulative exposure in a dose-dependent manner. Thus, strategies to prevent allergy to mice should remain focused on reducing mouse allergen exposure.

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TUESDAY

**1246** Mouse Allergen Exposure and Immunologic Responses: IgE-Mediated Mouse Sensitization, Mouse-Specific IgG and IgG<sub>4</sub>

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