Using powder-free latex gloves reduces latex allergy rate in health care workers

August 17 2011

Researchers at The Medical College of Wisconsin investigating latex allergy in health care workers have demonstrated the most effective public health strategy to prevent allergic sensitization is by stopping the use of powdered latex gloves. Previous medical studies pointed out this association of latex allergy to powdered latex glove use but were not able to completely confirm this link in specific workers. Reducing the use of powdered gloves reduced the allergen in the air and in air ducts at two hospitals, and prevented sensitization to latex in health care workers at both institutions.

These findings, detailed in the paper "Prevention of IgE Sensitization to Latex in Health Care Workers after Reduction of Antigen Exposures," are published online-first in the August 2011 Journal of Occupational and Environmental Medicine. The CDC quoted this article in its publication Science Clips as one of the best scientific articles of the week, because of the practical way in which the institutions were able to implement and then prove with the study an effective public health strategy.

Kevin J. Kelly, M.D., professor of pediatrics (allergy/immunology), internal medicine, and vice chair in pediatrics at the Medical College, is the lead author on the paper.

Dr. Kelly and his colleagues studied more than 800 health care workers at Froedtert Hospital and Children's Hospital of Wisconsin over a 4.5 year period. Researchers tested the amount of latex allergen in the air

ducts of the employees' primary work areas before and after both institutions switched to powder-free gloves, and found a significant correlation between high levels of airborne allergen and health care workers with a latex allergy, or sensitivity.

The switch to powder-free gloves led to significant changes at both hospitals. The unique study design allowed the investigators to determine that there was a 16-fold reduction in the rate of latex sensitization among the study participants. Among the health care workers who were sensitized to latex at the beginning of the study, 25 percent lost that sensitivity, and are no longer considered sensitized to latex. Whether these fortunate workers will re-develop latex sensitization if exposed to latex in the future is unknown.

"This study provides the strongest evidence that allergic sensitivity to latex in health care workers is linked to airborne allergen exposure through powdered gloves," Dr. Kelly said. "I believe these findings provide a roadmap for health care institutions that will help minimize the risks of latex sensitization to health care workers. I am extremely grateful to hospital administration at both Froedtert and Children's for allowing such an intrusive change in health care workers' daily activities to conduct this study."

Dr. Kelly's team also found health care workers who had demonstrated latex sensitization were nearly three times more likely to leave their jobs. This phenomenon has been termed "the healthy survivor" effect and helps explain why there may be an artificial reduction in latex allergy seen in some studies as the effected workers choose to no longer be employed without receiving worker's compensation from a work related exposure.

Provided by Medical College of Wisconsin