The prevalence of allergic reactions to Hevea brasiliensis natural rubber latex (heretofore indicated as latex) among high-risk health care workers and patients undergoing multiple surgical procedures has diminished in most developed countries from epidemic levels in the mid-1990s.(1) This decrease has been attributed to effective avoidance practices and a reduction in exposure due to the use of lower allergenic latex products and the increased use of synthetic products. There remains, however, continued risk for Hevea allergen exposures from less well established latex sources. To verify the continued exposure risk to latex-sensitive (IgE anti-latex positive) individuals from inadvertent sources, we examined levels of latex allergen in a cross-section of commercially available toy balloons. We compared these levels to those obtained with currently available Hevea latex-containing dental dams, medical gloves, and control nitrile and guayule medical gloves. Each product was extracted 2 hours at 25°C using saline, 0.1 grams/mL, with agitation. We used three American Society for Testing Materials (ASTM) methods to quantify the level of total protein, Hevea antigen, and Hevea allergen.(3) Importantly, a wide range of Hevea allergen was detected in common toy balloon sources (range, 0.21-16.73 micrograms/gram). Of particular concern were two balloon sources and all the natural rubber latex dental dams that were at or above the 200 micrograms/dm2 limit for antigenic protein. The balloon with the highest total protein (307 micrograms/dm2) had the highest antigen (112 micrograms/dm2) and allergen (27.5 micrograms/dm2) content. This compared to no detectable protein, antigen, or allergen in extracts of nitrile orguayule rubber gloves and the synthetic dental dam (negative controls). (3) Previous investigators have shown that toy balloons can contain significant levels of allergen, (4,5) Our data verify that toy balloons continue to represent an unappreciated source of Hevea allergen exposure, particularly for children. In summary, sensitized individuals need to remain vigilant about possible inadvertent exposures from less obvious sources, such as toy balloons.

References:

Prepared by: Robert G. Hamilton, Ph.D., D.ABMLI
Professor of Medicine and Pathology
Johns Hopkins University School of Medicine and Director Johns Hopkins Dermatology, Allergy and Clinical Immunology Reference Laboratory
During this holiday season, we at the American Latex Allergy Association (ALAA) would like to wish you a very Happy Holiday Season and thank you for your past and future support.

You have helped us provide education and resources to over thousands of individuals with latex allergy, improving the quality of their lives. We have accomplished a great deal this year because of your heartfelt and generous donations. However, it takes continued dollars to make it happen, and we hope you will consider a special year-end gift.

Donating is very easy at www.latexallergyresources.org
Click on the Donate Now Button.
Your donation is tax deductible!
To explore this question, we obtained samples of ground up rubber tires from multiple sources that were destined for surfacing of playgrounds. The material was processed by mixing fine pieces of the material at 1 gram per ml of a physiological salt solution [phosphate buffered saline] to extract any protein that might be present. We then analyzed the extracts for the presence of latex allergen using a human IgE anti-latex based competitive inhibition assay (ImmunoCAP System).

One source of ground rubber released no detectable latex allergen, while the analysis of a second source detected relatively low levels of latex allergen (up to 11.8 AU/gram). The lower limit of detection is 2 AU/gram. In comparison to the dipped Hevea rubber glove positive control (2,665 AU/gram), these levels of latex allergen detected in the ground rubber tires were considered relatively low. Unfortunately, it is not possible to precisely know what level of natural rubber (Hevea latex) allergen represents a risk to any single latex allergic individual. This is because the magnitude of an individual’s sensitivity and the potential for an allergic reaction varies as a function of the level and specificity of the IgE antibody in their blood and the mode and duration of exposure to the latex allergen (skin versus mouth contact). Moreover, the amount of allergenic protein that is released from the rubber material depends on environmental conditions (rain or sun; temperature). Thus, released allergen has the potential to represent a contact or (less likely) a respiratory risk for highly sensitive latex allergic individuals. If you have latex sensitive individuals who plan to use the playground area where this material is used, then a conservative decision would be for this material to not be used on the playground or for that individual to avoid using the rubber surfaced playground.

Experts in the tire industry have indicated that tires can be divided into 3 groups: A: on road passenger/truck/light truck/motorcycle tires; B: off-road: heavy equipment/large truck/tractor treads; and C: airplane tires. The amount of natural (Hevea) rubber used in manufacturing of these tires can vary as a function of the cost of natural rubber at the time. As the cost of rubber decreases, the amount of natural rubber that is put into tires will increase. Thus, there is apparently not a single formulation that can be identified across time. In general, airplane tires (Group C) are 100% natural rubber latex because they need the elasticity for the sudden shock of the tire hitting the ground at high speeds. In contrast, passenger tires and radials used in Group A can contain up to 40% natural rubber latex. With this knowledge, it may not be surprising that a low level of Hevea latex allergenic protein was detected in extracts of some of these ground up rubber tire sources.

Based on these analyses and what I have learned about tire composition, I would probably not recommend the use of this rubber material on a playground if one anticipates it being used by children or adults who are highly sensitive (allergic) to natural rubber (Hevea brasiliensis) latex. The presence of even low levels of Hevea latex allergen may represent a risk to latex allergic individuals for exposure and the subsequent possible induction of allergic symptoms. However, Hevea allergen, if present, is bound up in the matrix of the molded rubber, and thus it would not be expected to be readily released in quantities sufficient to induce IgE antibody or sensitize individuals who are otherwise not already latex allergic.
Press Release

Sen. Galloway: Epi-pen legislation signed into law
11/23/2011

Contact: Pam Galloway
608 266-2502

Madison—Today, Governor Walker signed into law legislation to allow Wisconsin students who suffer from food allergies to possess an epinephrine auto-injector device at school and school sponsored functions. State Senator Pam Galloway (R-Wausau), the Senate author of Senate Bill 204, released the following statement on today’s action:

“I am pleased that Governor Walker gave his approval to Senate Bill 204. The wait time between an allergic reaction and injection of epinephrine can be a matter of life or death. A severe reaction from food allergies, such as anaphylaxis, can occur within seconds or minutes of exposure. The fastest and easiest way to treat the symptoms of anaphylaxis is through the use of an epinephrine auto-injector. Allowing a child to carry their epi-pen on their person will enable quick injection of the epinephrine dosage following a reaction.”

“From drafting to legislative approval, Senate Bill 204 has enjoyed the support of many groups in the medical community. I would like to extend my gratitude to the Wisconsin Allergy Society, the Children’s Health Alliance of Wisconsin, and the Asthma and Allergy Network/Mothers of Asthmatics for their input and support of Senate Bill 204. I would also like to thank Representative Pat Strachota (R-West Bend), the Assembly co-author, and Representative Erik Severson (R-Star Prairie) for their work on this potentially life-saving legislation.”

SelectWisely

Launched in 2004, SelectWisely offers individuals a simple way to communicate their health related issues and food preferences while traveling in foreign-speaking countries or dining in local restaurants. Their website allows customers with medical problems, dietary sensitivities, food allergies, and food restrictions to order wallet-sized, laminated travel translation cards specific to their needs.

Since 2004 the company has helped thousands of people travel worry-free with their customized cards. Currently, 22 types of cards are available and can be translated into 15 common languages. In addition, cards can be translated into 50 less common languages through the Special Order program. Latex allergy cards are available. Visit SelectWisely.com for more information.