THE "INFO"-HALER

TAKE IN THE INFORMATION

An easy to understand, informative newsletter for our patients of all ages from the *Allergy & Asthma Associates of Michigan, P.* C.

LATEX ALLERGY

Latex is a milky sap produced by the rubber tree (hevea brasiliensis). It is used in the manufacturing of natural rubber latex (NRL) products. A latex allergy is an allergy to proteins found in natural rubber latex. These proteins are capable of inducing 19E antibodies which can trigger immediate hypersensitivity reactions. There are, however,
several synthetic rubber products referred to as latex, but these products do not carry the proteins that cause allergic reactions. During manufacturing, preservatives and chemicals are added to natural rubber latex to increase the speed of vulcanization and to protect the rubber from oxygen in the air. These additives are also capable of causing contact dermatitis in sensitive individuals (though not an 19B mediated response). It is, therefore, difficult to determine if someone is allergic to natural rubber latex or to the chemicals added to the rubber products.

It is estimated that 13.5 million Americans may be sensitive to latex. Since 1988, allergy to natural rubber latex has become a serious health care problem. Reports of latex allergy in the work place have risen dramatically. Many believe this increase is due to the outbreak of AIDS in the 1980's. Latex, due to its durability, is the barrier of choice to protect against HIV, hepatitis B, and other infectious agents. Also, latex gloves are the preferred gloves of surgeons since they fit well, are very flexible, tear less often, stretch easily, and conform well to the shape of the hand allowing for maximum dexterity. The use of natural rubber latex in manufacturing has also become more prevalent in recent years. In addition to rubber gloves, natural rubber latex can be found in soft casts, operating room masks, adhesive strips, balloons, diapers, incontinence pads, pacifiers, feeding nipples, water thongs, plastic storage bags, condoms, diaphragms, rubber bands, erasers, elastic, mouse pads, Halloween masks, rubber balls, soccer balls, volley balls, craft supplies, make-up, foam rubber, carpet backing, rubber mats, taped racquet handles, and more. Latex paint is usually not a problem as it does not contain natural rubber latex. Elastyran gloves are safe substitutes and are hypoallergenic. Other products acceptable to use as substitutes are silicone products, vinyl products, spandex, lycra, leather balls, mylar balloons, polyurethane, and natural membrane condoms.

There are three types or reactions to natural rubber latex: irritant contact dermatitis, allergic contact dermatitis, rod immediate hypersensitivity. Irritant contact dermatitis is a result of contact with the chemicals :mercapotobenzothiazole and phenylenediamines) found in latex, the powders added to latex, or from frequent hand washing after removing latex gloves. It does not directly affect the immune system. Extent of the reaction depends on juration of the exposure, amount of skin contact, and the skin temperature. Irritant contact dermatitis causes redness, tching, swelling, and thick crusty plaques on the affected skin (usually the hands). The reaction generally occurs :welve to forty-eight hours after exposure to the latex. This rash is irritating, but not life threatening.

The second type of reaction is allergic contact dermatitis. It is also called a delayed hypersensitivity reaction.
Ihe reaction begins forty-eight to seventy-two hours after exposure and directly involves the immune system. The legree of reaction depends on the individual's genetic susceptibility. These reactions occur in people who have ireviously been exposed to latex and are sensitized. Symptoms such as itching, redness, and oozing skin blisters may iccur,

The third type of reaction is an immediate hypersensitivity reaction. This reaction requires previous ensitization which means the person has developed 19B antibodies for the protein in the latex within their immune

system and re-exposure to the latex triggers the reaction. The severity of the reaction is dependent on the degree of sensitivity and the amount of latex exposure. This reaction is characterized by burning, stinging, skin redness, sneezing, itching, scratchy throat, eye swelling, shortness of breath, nasal blockage, generalized hives, rhinitis, coughing, wheezing, faintness, decreased blood pressure, nausea, and vomiting and can progress to anaphylaxis and rarely be fatal if not treated. The reaction is worse if the latex contacts moist areas of the body, areas where the skin is broken, mucous membranes, or internal surfaces because more of the allergen can be rapidly absorbed. The reaction generally occurs within five to sixty minutes of exposure. The risk of progression from a skin rash to more serious reactions is unknown, but once sensitized, a more serious reaction could occur with continued exposure.

There are certain groups of people more at risk for latex allergies. They are either regularly exposed to latex, or use latex on a regular basis. These people would be health care workers (10-17%), dentists (13-14%), rubber plant workers (11 %), patients who have had many medical/surgical procedures, patients with congenital urinary tract problems (50%), and spina bifida patients (40-65%).

Latex can become airborne and cause respiratory symptoms. Latex gloves are coated with cornstarch. Latex particles stick to the cornstarch and fly into the air as the gloves are put on and removed. These particles can trigger allergic reactions. Certain foods may also trigger allergic reactions by containing some of the same allergenic protein as those in latex. These foods may need to be avoided by latex sensitive individuals. The foods that exhibit this crossreactivity are avocados, bananas, water chestnuts, kiwi, tomatoes, potatoes, and papaya.

Diagnosis oflatex allergy is made by a thorough clinical history, skin prick test, RAST blood test for latex 19B, and occasionally a latex glove challenge test. RAST tests detect only 50-70% of skin test positive latex allergic individuals so should never be used alone to diagnose latex allergy.

There is no treatment available for latex allergy, except avoidance. Medications are available to temporarily relieve the symptoms caused by the allergy and epinephrine (EpiPen) is required to treat anaphylactic reactions. Latex sensitive individuals should avoid contact with natural rubber latex products. They should wear a medic-alert bracelet that states "allergic to natural rubber latex products" and possibly (at the doctor's discretion) carry an EpiPen. These people should use only non-latex gloves, inform all their doctors about their latex allergy, and consider pre-medication with steroids, antihistamines, and H2 blockers before any surgery.

In today's world, natural rubber latex is widespread and cannot be easily eliminated. Improvements must be made in the manufacturing, production, and handling of these products. If you would like more up to date information regarding latex allergies, contact the following national support group of latex sensitive individuals.

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