



## Latex Allergy

The incidence of serious allergic reactions to latex has increased dramatically in recent years. In rare cases, these allergies can be fatal. Health care workers and others who are frequently exposed to products containing latex should be aware of the potential for developing an allergic reaction. Individuals who exhibit symptoms of the allergy should be alerted to the need to avoid future exposure to latex.

### About Latex Allergy

Latex allergy or hypersensitivity occurs when the body's immune system reacts to proteins found in natural rubber latex. The immune system launches a "defense" that can cause a host of unpleasant and, in some cases, life-threatening symptoms. It is the same type of generalized allergic reaction seen when individuals who are allergic to bee venom receive a bee sting.

Some individuals have specific antibodies, called IgE antibodies that make them hypersensitive to the proteins in natural rubber latex. IgE-mediated reactions to latex proteins are responsible for the most severe allergic reactions to latex. Also, various chemicals that are added to latex during processing may be responsible for some local skin reactions, but these additives have not been proven to cause the more generalized, potentially fatal allergic reactions associated with latex.

### About Natural Rubber Latex

Natural rubber latex is a processed plant product derived almost exclusively from the tree *hevea braziliensis* found in Africa and Southeast Asia. Natural rubber latex should not be confused with butyl- or petroleum-based synthetic rubbers. Synthetic products, including latex house paints, have not been shown to pose any hazard to latex-sensitive individuals.

Latex is a common component of many medical supplies, including disposable gloves, airway and intravenous tubing, syringes, stethoscopes, catheters, dressings and bandages. Many of these medical devices come into contact with mucous membranes, which enhance the absorption of latex proteins that can trigger an allergic reaction. Latex gloves also frequently cause allergic reactions due to the repeated direct exposure of the wearer's hand to latex proteins or due to airborne latex proteins that are absorbed by powders used to line some latex gloves.

Which latex also is found in as many as 40,000 consumer products, including condoms, balloons, athletic shoe soles, tires, underwear leg and waist bands, rubber toys, nipples and pacifiers, these rarely cause problems except to the most sensitive patients.

### Symptoms of Latex Allergy

Allergy to latex proteins is a new medical problem with symptoms similar to those seen in individuals who are allergic to bee venom or cat dander. Reactions on exposure to the allergen are generally acute and may mimic hay fever or asthma, with symptoms such as nasal congestion, hives or difficulty breathing. The most severe cases can result in anaphylaxis, a potentially fatal reaction that affects many parts of the body at once. Symptoms are usually immediate, progress rapidly and may include a dangerous drop in blood pressure, flushed skin, difficulty breathing, and swelling of the throat, tongue and nose, and loss of consciousness. Emergency medical attention should be sought at the first sign of an anaphylactic reaction.

Skin problems resulting from the use of latex and non-latex gloves are frequently confused with latex allergy. Contact dermatitis is a frequent problem in latex glove wearers. This condition can be caused by many different factors including exposure to an irritant in the glove; frequent hand-washing with irritating soaps; as well as skin abrasions from donning

and removing gloves. It can also be a “chemical sensitivity” caused by a contact allergy to one of the chemicals used in the production of rubber gloves. These local skin problems are virtually never a result of true latex allergy.

In most cases, latex allergy develops after repeated exposures to latex. It should be noted, however, that direct physical contact with latex-containing products is not needed to trigger an allergic reaction. Cases of anaphylaxis have resulted from inhaling latex proteins, which can be absorbed by the powder that is used to line some latex gloves. When the gloves are snapped on and off, the proteins become airborne and can pose a risk to some individuals with latex hypersensitivity.

### **Prevalence of Latex Allergy**

It is difficult to say how widespread the problem of latex allergy may be. Approximately 1,000 cases of allergic or anaphylactic reaction to latex-containing medical products have been reported to the U.S. Food and Drug Administration (FDA) since 1988. It is assumed that many other cases go unreported. In one 1994 study, 6% of volunteer blood donors were found to have increased levels of anti-latex IgE antibodies, although many of the volunteers did not show symptoms of latex allergy. Other research suggests that more than 100,000 health care workers may be at risk for developing latex allergy.

The introduction of universal precautions in health care settings including the widespread use of latex gloves to prevent the spread of AIDS and hepatitis B is believed to be the primary cause of the increased prevalence of latex allergy. Also, there is greater awareness and reporting of latex allergy than in the past.

### **Individuals at Risk**

The greatest risk is to individuals who are repeatedly exposed to products containing latex, particularly:

- Patients with a history of early and/or recurrent surgical or medical procedures, such as children with spina bifida.
- Health care personnel and others who wear latex gloves regularly.
- Individuals with occupational exposure, such as workers involved in the manufacture of latex gloves or catheters.

Other risk factors are less defined but appear to include:

- A history of hay fever or other allergic problems.
- A history of food allergies to tropical fruits, hazelnuts, chestnuts or stone fruits, particularly if progressive in scope or severity.
- Hand dermatitis that is severe or has changed in severity in an individual who wears latex gloves.

The risk of anaphylaxis appears to be greatest in individuals with prior allergic reactions to latex-containing objects or prior, unexplained reactions or anaphylaxis during a medical or surgical procedure. Health care providers with a history of severe or worsening latex-glove-induced eczema, hives or work-related rhinitis or asthma-like symptoms should be especially cautious.

### **Preventing Latex Allergy**

All products and medical devices that come in contact with individuals at risk should be reviewed for possible latex content. A label of “hypoallergenic” *does not* mean that a product is latex-free.

In general, only low allergen, preferably non-powdered latex gloves should be used. The powders that are in some latex gloves can absorb latex proteins and carry them into the air where they may be inhaled by latex-sensitive individuals.

Health care workers with a history of glove-associated skin irritations, or contact dermatitis, should use alternative gloves (which may include latex gloves) and topical treatments to relieve their symptoms. Some petroleum-based products have been shown to compromise the barrier function of latex gloves, and care should be taken in the choice of treatments used to relieve contact dermatitis.

In June 1996 the FDA proposed mandatory labeling of latex rubber in medical devices and banning the term “hypoallergenic” on latex-containing medical devices. These requirements were suggested by the American College of Allergy, Asthma and Immunology (“The Collge”).

The College also has proposed that the FDA and other government agencies:

- establish maximum levels of extractable latex allergen in gloves
- “fast track” the approval process of diagnostic tests for latex allergy
- conduct or fund epidemiologic studies to identify causes of latex allergy and minimize risk factors
- address issues of patient-worker safety in the medical setting
- consider content labeling for consumer products that contain latex rubber.

### **Diagnosis and Treatment**

A skin prick test may be done to test for latex allergy, but there are currently no licensed reagents commercially available for the test. Because of the potential for life-threatening anaphylactic reactions to the test itself, skin prick test for latex allergy should be performed only under the close supervision of your Allergist. Your Allergist can perform a blood test to confirm the presence of IgE anti-latex antibodies. Skin patch tests are used to evaluate the cause of skin irritations, or contact dermatitis, caused by rubber gloves.

There are a number of medications available to treat the symptoms of latex allergy once it develops. However, because there is no cure yet, the best “treatment” is prevention. Your Allergist can provide more information on how to manage allergic reactions to latex.

If you have questions about Latex Allergy, feel free to contact our office at 614-760-0099. One of our staff would be happy to answer your questions about Latex Allergy and discuss different treatment options offered at Allergy & Asthma Clinics of Ohio.