

## **Latex Allergy**

Allergy to natural rubber (latex) has been recognized as an increasing and clinically important problem in the last few years. It was first recognized in health care workers who are in frequent contact with latex in surgical gloves and other latex-based products in their workplace. Epidemiological studies have indicated that up to 25% of individuals who are in frequent contact with latex may be allergic to latex allergens. More than 40,000 products may now contain natural latex rubber and many articles in everyday use are made from latex. Allergic sensitization and triggering of an allergic reaction may be initiated by inhalation of powder from latex gloves, or by direct skin or mucous membrane contact with the rubber.

Sensitization to the antigens responsible for allergy in latex has led to latex allergy becoming increasingly common in the general population. Vehicle tires, articles of clothing with elastic and other rubberized materials, children's toys, balloons and other articles in the home and workplace are made from latex. More recently there have been reports of individuals becoming allergic to the latex in bonding glues used in hair extensions and other cosmetic procedures.

Latex allergy is most likely to develop in potentially allergic individuals who already have evidence of other allergies. Synthetic rubber is not a problem for people allergic to natural latex.

An additional concern regarding latex allergy is that some of the allergens that are responsible for triggering the allergic response can be found in a number of, mostly unrelated, food plants. Persons allergic to latex may experience sometimes severe, anaphylactic reactions, both to latex itself, and to the foods containing similar antigens when they consume them.

### ***Symptoms of Latex Allergy***

Typical symptoms of latex allergy include hives (urticaria), tissue swelling (angioedema), itching (pruritis), runny nose, itchy, watery eyes, sneezing, wheezing and asthma in asthmatics, throat tightening (laryngoedema), coughing, drop in blood pressure (hypotension) and in extreme cases, anaphylaxis. In addition to systemic reactions, latex causes contact allergy with hives, angioedema, itching and conjunctivitis where the latex comes into contact with skin and mucous membranes.

### ***Latex allergens***

Natural rubber latex is obtained from the *Hevea brasiliensis* rubber tree. Latex contains more than 35 potentially allergenic molecules. These have been classified according to a naming system based on the designation of the antigen as Hev b. Thus we have Hev b1, Hev b2, Hev b3, and so on. The molecular size of each antigen has been measured in kilodaltons (kDa), and in some cases the function of the molecule in the plant has been determined. For example, Hev b1 is 14 kDa in size and is described as a rubber elongation protein; Hev b2 is 35 kDa in size and is a  $\alpha$ -1,3 glucanase enzyme associated

with defence-related proteins in the plant. Many individuals who are allergic to latex are allergic to the proteins that are bound to the isoprene molecules responsible for the elasticity of rubber. For those people interested in the structure and function of latex antigens, more information can be accessed from the Zing Solutions site [www.allallergy.com](http://www.allallergy.com)

### ***Latex allergens in plant foods***

Some of the antigens in natural latex are structurally identical to antigens in some fruits and nuts, and occasionally latex-allergic people develop symptoms after consuming these foods. The fresh fruits that commonly cause such allergic reactions are banana, avocado and chestnut. Other foods less commonly associated with latex allergy are kiwi, mango, peaches, potato, tomato, and sweet chestnut. Table 1 indicates the foods that are known to contain antigens sufficiently similar to the allergens in latex as to trigger an allergic reaction in latex-sensitive individuals. As in all cases of potential allergenic cross-reactivity, not all persons with latex allergy will develop symptoms when exposed to these foods; clinical expression of an allergy is an individual idiosyncrasy. However, many practitioners advocate that a patient with established latex allergy should be instructed to avoid all foods that have been demonstrated to exhibit the allergens associated with latex allergy because of the risk that as a result of repeated exposure to the allergen, the reaction might escalate to an anaphylactic reaction.

**TABLE 1**

**FOODS WITH ANTIGENS RELATED TO LATEX**

<b>Non-Food Allergens</b>	<b>Fruits and Vegetables</b>	<b>Legumes and Grains</b>	<b>Nuts and Seeds</b>	<b>Other Plants that may Contain Similar Antigens</b>
<b>Latex</b>	Avocado Apricot Banana Celery Cherry Citrus fruits (orange, grapefruit, lemon, lime) Fig (Weeping fig) Grapes Kiwi fruit Mango Melon Papaya (pawpaw) Passion fruit Peach Peppers (sweet, paprika) Pineapple Potato Tomato	Peanut Soya bean Buckwheat	Chestnut Walnut “Nuts” (various species, unspecified)	Mugwort Ragweed Rye grass Timothy grass

***Note***

The table lists the foods and plants that have been shown in research studies to contain antigens that are similar to those in latex. This does not mean that a person with latex allergy will react to all of the foods on the list. Latex-allergic individuals need avoid only those foods to which they have experienced an allergic reaction. The list may serve to indicate to the latex-allergic person those foods that could trigger a reaction in the future.