

## Allergies to Latex

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### Facts About Allergies

The tendency to develop allergies may be inherited. If you have allergic tendencies and are exposed to certain things in your environment (allergens), you may develop allergies to some of those things. Examples of allergy symptoms include itchy eyes, runny nose, asthma symptoms, eczema and rash. The timing of the allergic response may be immediate or delayed. Allergy testing may be recommended to help identify your allergies.

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### What is a Latex Allergy?

Latex is a natural rubber made from the sap of the Hevea brasiliensis tree. It is used to manufacture many items including bicycle and wheelchair tires, toys, some balloons, examining gloves, household gloves, surgical tubing, rubber bands and condoms. The major exposure of concern is to the powder from latex gloves, because the latex proteins adhere to the powder and become airborne when these gloves are put on, taken off or snapped.

A person allergic to latex is actually allergic to one or more proteins (allergens) found in the sap from the rubber tree. Interestingly, these proteins – or ones very similar to them – can be found in banana, kiwi, avocado, potato, strawberries, peaches and chestnuts. Both latex and these foods are plant-derived and contain chitinase 1, a plant allergen responsible for the latex-fruit syndrome. Therefore people who are allergic to latex may have cross-reactions to these foods. Interestingly, the chitinase 1 allergen is destroyed by heating; so many people can eat the cooked food, but not the raw form.



### What Are the Symptoms of Latex Allergy?

Latex allergy can present a wide range of symptoms including:

- Hives (contact urticaria),
- Itchy, watery eyes (conjunctivitis),
- Sneezing, runny nose (rhinitis),

- Wheezing, shortness of breath, chest tightness (asthma symptoms) and in severe cases,
  - Anaphylaxis including severe asthma symptoms, throat swelling, fall of blood pressure, loss of consciousness, and rarely death.
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## Who Gets Allergies to Latex?

Genetics and the environment both play a role in developing a latex allergy. There are groups of people who are more likely to develop a latex allergy than others. Since the amount of exposure to latex is a key factor in developing a latex allergy, healthcare workers and patients (especially children) who undergo multiple surgeries are at risk. Children with spina bifida are the most likely group to develop a latex allergy, in part because their exposures are more likely to be mucosal e.g. through latex catheters and tubing.

There is a genetic link to allergies. Therefore, people are at increased risk for developing an allergy to latex if they have other allergic conditions such as:

- Allergy-induced asthma,
- Eczema (atopic dermatitis);
- Hives (chronic urticaria) and
- Food allergies.

People who have experienced a reaction after eating banana, kiwi, avocado, potato, strawberries, peaches or chestnuts may also have increased risk for latex allergy.

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## How is Latex Allergy Diagnosed?

Every diagnosis begins with a detailed medical history. The doctor will ask lots of questions about the nature of the reaction, where and when it occurs, etc. Since allergy may be genetic, expect some questions about other family members who may be allergic.

Once the detailed medical history is taken, skin or blood tests may be performed. Skin tests are more common and accurate than blood tests. The doctor will make a diagnosis based on the test results, and the medical history.

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## What is the Treatment for Latex Allergy?

The best way to treat latex allergy is to avoid latex. There is no cure for allergy, and continued exposure to latex may make the condition worse.

Antihistamines may be used to control some symptoms, but they also may help mask allergic reactions to small amounts of latex in the environment. Remember, continued exposure to latex may make this condition worse.

Latex is a complex biological compound and the specific proteins within latex that cause allergic reactions have not been fully identified and characterized and may vary from person to person. Therefore, there is no standardized extract and immunotherapy (allergy shots) is not currently a treatment option.

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## Environmental Control to Reduce Latex Exposure

Environmental control - decreasing or eliminating exposure to the latex allergy – is the best way to reduce symptoms in those people who are already latex allergic, and prevent the allergy from developing in other exposed patients and health care

workers. Evidence shows that allergy and asthma symptoms may improve over time if the recommended environmental control changes are made.

Environmental control measures to consider for allergy to latex include:

- Generally, the most important latex exposure to avoid is powder from powdered latex gloves. Solid objects containing latex, such as rubber bands, blood pressure tubing, bicycle tires and the like, are not a hazard for asthma or hay fever symptoms because they do not emit latex particles.
- A latex-safe environment is one where latex allergic patients and staff do not use any latex-containing items. In addition co-workers and other patients do not use powdered latex gloves, but instead use non-powdered latex, or preferably, non-latex gloves. Both latex-allergic and non-allergic patients and staff are protected against allergic reactions in this environment.
- Health care workers allergic to latex should wear alternative products such as nitrile examining gloves instead of latex, and they should ask coworkers to wear nitrile gloves, or at least a non-powdered latex glove. If this is not possible, seek reassignment to an area where powdered latex gloves are not used.
- Non-healthcare professionals allergic to latex should communicate their allergic conditions to medical staff when undergoing a check-up or medical procedure. This is especially important in the case of surgery. You could even bring your own non-latex gloves to any medical appointment in case your caregiver doesn't have any.
- Check labeling on products you buy. "Hypoallergenic" does not necessarily mean "no latex".
- Wear a med-alert bracelet or necklace describing your allergy just in case you ever need emergency care.
- Carry an injectable epinephrine pen in case of an anaphylactic reaction, although these are very rare.

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## Role of National Jewish Health

Board certified allergists and occupational medicine specialists at National Jewish Health evaluate and treat a number of allergic and occupational related allergic conditions. Our clinical work begins by trying to rule out latex allergy by performing a number of tests. Skin patch tests and RAST blood tests are used with an extract from latex gloves to assess this type of allergic reaction.

To assess for latex asthma and other severe reactions, we perform blinded latex inhalation challenge tests using powdered latex gloves and non-latex control gloves on separate days. We are one of the few centers in the United States that perform these tests and we have extensive experience. With our protocol of incremental graduated exposure intervals we have not had any severe reactions. Often individuals with latex asthma have had major changes in their lives and we often recommend psychosocial counseling to address adjustment to illness issues.

Our occupational environmental physicians work with patients and their employers to develop practical approaches to protecting the patient and other employees.

National Jewish uses only non-powdered latex gloves in all clinical areas to avoid any exposure to airborne latex by patients or clinicians. Non-latex gloves are used in areas where latex-allergic patients are evaluated and treated.

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## Latex Allergy Research

Our current research focus in the area of latex allergy involves improving the precision of our diagnostic methods through the use of specific inhalation challenges, and studying changes in certain biomarkers before and after controlled exposures. We are also examining the effect of co-exposure to certain chemicals often present in the hospital environment. Other studies are focused on air monitoring for latex protein allergen levels. Board-certified allergists at National Jewish Health pioneered many of the diagnostic tests and treatments for allergic conditions.

Visit our website for more information about support groups, clinical trials and lifestyle information.

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