Allergy & Asthma NETWORK

Latex Allergy

A Practical Guide for Patients and Providers

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Latex Allergy: A Practical Guide for Patients and Providers

In the late 1980s, Sue Lockwood's career as a surgical technician came to an abrupt end due to latex allergy. Latex gloves used in hospitals and clinics back then put her at a high risk for anaphylaxis, a severe allergic reaction. Studies revealed up to 17 percent of healthcare workers were sensitized to latex.

It turned out the career change opened up her life to a new and meaningful mission.

With a colleague, Sue co-founded the American Latex Allergy Association and served as its executive director for 23 years before coming to Allergy & Asthma Network. Through the years, she worked to help thousands of latex patients, developed a community where patients support each other and collaborated with latex researchers.

Today many healthcare settings no longer use latex gloves. Every year we see more legislation passed by states banning latex products from use in public places, including restaurants. We've come a long way – but there's still a long way to go.

It's important that you understand and identify your latex allergy triggers and follow a treatment plan developed by you and your doctor if there's an accidental exposure.

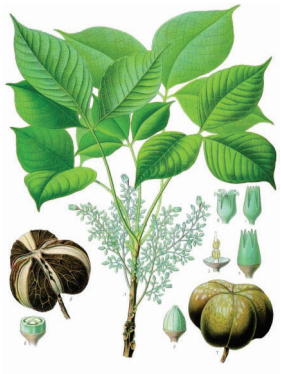
In addition to this guide, Allergy & Asthma Network supports Latex Allergy Awareness Week the first week of every October. Our publications consistently focus on advances in latex allergy management and treatment. We developed a latex allergy section on our website, *AllergyAsthmaNetwork.org*, that is updated regularly with the latest information for patients and healthcare professionals.

A Tonya A. Winders ·k will always share the science and the patient voice sonal and professional.

Tonya Winders
President and CEO

Getting to Know Latex Allergy

Latex allergy is an allergic reaction to proteins from the Hevea brasiliensis rubber tree sap, the milky fluid used to manufacture more than 40,000 products.



Latex can be carried on small particles and become airborne and inhaled into the lungs. The proteins can stimulate the immune system to make an allergic antibody (Immunoglobulin E, or IgE) and initiate an allergic reaction.

Latex allergy is a unique health condition that affects up to 6 percent of the U.S. population. It can be very serious, but with education, awareness and avoidance strategies in place, patients can learn to live a full and healthy life.

Types of Latex Allergy

Latex allergy can be confusing for patients and complex for healthcare professionals to diagnose and treat. There are three types of clinical reactions that occur when a person with a latex allergy is exposed to a natural rubber product.

1. **IgE-mediated allergic reactions (Type I)** – This allergy can be life threatening. It occurs when an allergic antibody called IgE is directed against the proteins in latex products, beginning an allergic reaction. The reaction is triggered by direct skin contact with latex, contact with mucus membranes of the eyes or nose or by breathing in airborne latex proteins. Symptoms include hives, swelling, runny nose, red and itchy eyes, asthma, or a life-threatening allergic reaction (anaphylaxis).

2. **Cell-mediated contact dermatitis (Type IV)** – This allergy is not life-threatening. It's usually limited to the skin after contact occurs with a rubber product. Multiple chemicals used in the manufacturing of latex products can remain in the finished product. The chemicals include thiuram, carbamate and mercaptobenzothiazole, which are classes of compounds used to speed cross-linking of isoprene in the manufacturing process. This type of latex allergy presents as a skin rash. It's a delayed immune reaction brought on by T-cell lymphocytes that occur with exposure to the chemicals; symptoms may take 24-48 hours to develop from the time of exposure to reaction. Symptoms include rash with redness, skin changes that may look like pimples or blisters, and oozing pus from skin. Because contact usually occurs more than once, the rash may develop into a chronic problem and may even extend beyond the site of contact. It is important to note this delayed contact allergy to chemicals can occur at the same time with an IgE-mediated allergic latex allergy.

3. **Irritant dermatitis** – Individuals who use rubber products frequently (for example, healthcare workers required to wear gloves) are at risk for developing irritant dermatitis. This type of dermatitis is different from contact dermatitis. It does not begin with an immune system sensitization and reaction. Rather, it is caused by frequent skin washing, sweating and/or irritation with persistent contact from powder lubricants. The rash is dry, swollen, red, occasionally itchy and accompanied by cracked skin. Symptoms never extend beyond the point of contact with the offending irritant.

There are two major categories of natural rubber latex:

- **Dipped –** These products are stretchy rubber and usually contain the highest content of latex proteins (gloves, balloons, condoms).

- **Molded –** These products are dry molded to be hardened rubber products (vial stoppers, syringes, gaskets).

Synthetic rubber latex products do NOT contain natural rubber latex proteins but may contain rubber accelerators that are used in manufacturing. If you are sensitive to accelerators, you may have a synthetic rubber latex reaction.

The Power of Powder

Proteins in natural rubber latex can bind to cornstarch powder that is often put in products during the manufacturing process (for example, powder on latex gloves and latex balloons, or other dipped latex products).

These protein particles can easily become airborne and people with latex allergy may experience a reaction if the powder is inhaled or comes in contact with the mucus membranes of the eyes, nose or skin.

It's important for people with latex allergy or their caregivers to constantly be aware of their environment. Latex balloons may appear where you may least expect them. Be an advocate and share medically accurate information on latex allergy to raise awareness in the community.

Diagnosing Latex Allergy

While latex allergy affects up to 6 percent of the population, it is much more common in employees who work in the medical or dental health fields. In fact, 33.8 percent of dental care workers, 10-17 percent of healthcare workers and 17 percent of restaurant workers have been diagnosed with latex allergy.

In addition, people who undergo multiple surgeries – such as spina bifida patients – are at increased risk for latex allergy.

There is no cure for latex allergy.

The only way for people with latex allergy to prevent symptoms is strict avoidance of latex

Symptoms of Latex Allergy & Anaphylaxis

Symptoms range from skin irritation to respiratory symptoms to life-threatening anaphylaxis – and there's no way to predict which will occur if exposed.

Some patients experience a mild contact type of reaction, while others experience a true allergic reaction that can be fatal without treatment.

It's important to know the difference between a mild contact reaction and a severe allergic reaction.

Local Contact Reaction to Latex - Mild	
Where does the reaction begin?	On the skin – usually where latex touched the body
What does the reaction look like?	Red, itchy skin at the site of contact
What is this type of reaction called?	Irritant contact dermatitis
How long does it take to appear?	12 to 24 hours after contact

Systemic Reaction to Latex - Severe
Where does the reaction begin? Involves one or more body systems (skin, digestive, respiratory, heart, etc.)
What does the reaction look like? A full body reaction
What is this type of reaction called? Anaphylaxis
How long does it take to appear? Immediate reaction where contact occurs

If the reaction is a systemic or life-threatening anaphylaxis, symptoms typically involve more than one organ system. These include:

- **Skin:** itching, redness, swelling, hives
- **Mouth:** itching, swelling of lips and tongue
- **Stomach:** vomiting, diarrhea, cramps
- **Respiratory:** shortness of breath, wheezing, coughing, chest pain and /or tightness
- **Heart:** weak pulse, dizziness, faintness
- Headache, nasal congestion, watery eyes, sweating
- Confusion, feeling of impending doom
- Loss of consciousness

Symptoms can start within seconds of exposure to latex or may not appear until hours later. The allergic reaction can be different each time a person experiences anaphylaxis and can vary in severity each time. Once the reaction starts, it usually progresses quickly. This makes anaphylaxis identification and care tricky at times.

A board-certified healthcare professional, often an allergist, makes the diagnosis of latex allergy, contact dermatitis and/or irritant dermatitis. The healthcare provider uses a combination of medical history, physical exam and various laboratory and clinical tests. Laboratory testing alone is not enough to make a diagnosis.

Patients are encouraged to provide a full list of items and foods that may have caused a latex-allergic reaction to help to determine whether latex allergy is present.

- Latex-specific IgE antibodies can be identified through skin testing or blood tests. (Patients should be aware that skin testing for latex allergy has a small risk of adverse reactions.) There is no FDA-approved skin test reagent for latex allergy in the United States.
- Contact dermatitis is confirmed by the use of patch testing.
- Irritant dermatitis is diagnosed by the patient's medical history and a physical examination.

An allergic response after eating or being in contact with certain fruits and vegetables is another indication latex allergy is present. It's important to identify these cross-reactive foods and work with a healthcare provider to determine if there is a latex allergy.

Cross-Reactivity with Food

Foods with similar proteins to latex – mostly fruits and vegetables – can cause an allergic reaction in 50% of individuals with a latex allergy. Different foods have a high, moderate or low likelihood of causing an allergic reaction.

High latex proteins


avocado


banana


chestnut


kiwi

Moderate latex proteins


apple


carrot


celery


melons


papaya


potato


tomato

Low or undetermined latex proteins

apricot	*chick peas*	*grapes*	*oregano*	*pineapple*	*soybean*	*wheat*
buckwheat	*citrus fruits*	*hazelnut*	*peach*	*plum*	*strawberry*	*zucchini*
castor beans	*coconut*	*lychee*	*peanut*	*rye*	*sunflower seed*	
cayenne pepper	*dill*	*mango*	*pear*	*sage*	*sweet pepper*	
cherry	*fig*	*nectarine*	*persimmon*	*shellfish*	*walnut*	

People with latex allergy need to be aware of the possibility of a reaction to these foods. You may not need to avoid them unless they cause symptoms or your doctor has directed you to avoid them.

Latex Allergy Treatment

Latex allergy treatment depends on the type of reaction that is present – a mild sensitivity or a life-threatening allergic reaction, or anaphylaxis.

- **Mild Sensitivity*:** If a mild sensitivity is present and there is only a local reaction – the skin is itchy and red at the site where latex was touched – your doctor may suggest using an antihistamine or using 1% hydrocortisone cream.

- **Anaphylaxis*:** Epinephrine is the first-line treatment for severe, life-threatening allergic reactions. Epinephrine is a medication given by injection and it works quickly to raise blood pressure and reduce swelling in the body. Epinephrine is available in an easy-to-use auto-injector – a prefilled syringe with a retractable needle. Epinephrine should be administered without delay when symptoms appear – for anaphylaxis, it's EPINEPHRINE FIRST, EPINEPHRINE FAST!

Every latex allergy patient at risk for anaphylaxis should have a Latex Allergy Action Plan developed by a healthcare provider. This plan should outline the course of action to take in the event of an allergic reaction. The plan should be shared with family, friends and caregivers so that everyone knows what to do in an emergency. An example of an Allergy & Anaphylaxis Emergency Plan is available at *AAP.org/aaep*.

* Treatments mentioned here are for informational purposes only. If you have latex allergy and require treatment, you should see your healthcare provider or a board-certified allergist to determine the best treatment for you.

Managing Latex Allergy

Awareness – Avoidance – Action – Advocacy

It's important for people with latex allergy to discuss the condition with those around them, especially family, friends, medical professionals, dentists, employers and co-workers.

AWARENESS

- Wear Medical Identification
  - Get a medical alert bracelet – these are available in many styles for adults and children
- Notify healthcare professionals of your latex allergy
  - EMS
  - Medical / dental providers

AVOIDANCE

- Avoid:
  - Natural rubber latex gloves, latex balloons, condoms and other natural rubber products

ACTION

- Carry at all times:
  - Medications as prescribed by your doctor, including an epinephrine auto-injector – carry two doses; and other medications such as antihistamines, asthma medications (albuterol)
  - Non-latex gloves
  - Latex Allergy Action Plan developed with your allergist
- Be aware of and consult with your allergist regarding:
  - Proper use of all medications
  - "Hidden" latex on food prepared with latex gloves
  - Lactiferous plants that may have cross reactive proteins
  - Foods with cross reactive proteins to natural rubber (banana, avocado, kiwi, chestnut)
- Carry a list of medications prescribed by your doctor

ADVOCACY

- Stand up for yourself and others to be sure that environmental accommodations are made so patients with latex allergies are safe.
- When legislation is introduced at the local, state or national level, speak or write to your legislator to educate them about the importance of keeping people with latex allergies safe both at home and in public places.

As with any health issue, be sure the information that you access to educate yourself on latex allergy is based on guidelines developed by medical experts.

Prevention Strategies

The only way for people with latex allergy to prevent a reaction is strict avoidance of latex. Some strategies you can use to reduce the chance of an allergic reaction are:

- Replace latex balloons with non-latex Mylar® balloons. If you get to a location where there are latex balloons, request that they be removed before entering the space.
  - If a student or school staff member has a latex allergy, consider banning latex balloons from the school setting completely.

- Plan ahead when going somewhere new:
  - Call the restaurant you want to go to and ask if the kitchen and wait staff use latex gloves in preparing or serving food. Also ask if they allow latex balloons on the premises.
  - Call the hair salon to see if they use latex gloves.
  - Check with your doctor's office, dentist's office or any healthcare facility that you visit to be sure that they are not using latex gloves.

- Use paper clips, string or other fasteners instead of rubber bands.
  - Request that your mail not be bundled with a rubber band.

- Be sure that family and friends understand what products contain latex and avoid using them.

If you are unsure if a product contains latex, it's important to contact the manufacturer. In the Resources section of this guide, there is a Product Verification Letter that can be downloaded as a PDF and sent to a company to help in determining if a product is latex-free.

Common Products that Contain Latex

There are more than 40,000 products worldwide that contain latex and it's often very difficult for people with latex allergy to perform everyday tasks and live a full, active life. Latex allergy generally develops after repeat exposure to medical and consumer products containing natural rubber latex.

Where In the World Is Latex?

- Balloons
- Rubber gloves
- Condoms
- Elastic bands, physical therapy bands, rubber bands
- Dental dams
- Stethoscopes and blood pressure cuffs
- Spandex
- Pacifiers and baby bottle nipples
- Mouse pads
- Goggles
- Bath mats
- Garden hoses
- Certain mattresses

The difficulty in managing latex allergy is that latex and latex proteins are found in so many common everyday products. For example, the daily mail may be wrapped in a rubber band; there may be a celebration that includes latex balloons; or the elastic waistband on underwear may cause a sudden and unexpected allergic emergency.


LATEX ALLERGY...
Beyond the Gloves
Kiwi
Elastic
Erasers
Balloons
Bananas
Avocado
Chestnut
Condoms
Koosh® Ball
Dental Dam
Rubber Bands
Latex Mattress
Therapy bands
Bandage Adhesive
Rubber Accelerators
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What is Latex Allergy?

Latex allergy is a reaction to the proteins in milky sap of the *Hevea brasiliensis* rubber tree and certain other flowering plants. Symptoms most often develop after skin contact with products or plants containing natural rubber latex.

1–6%
of the general population has a latex allergy.

Symptoms to watch for after exposure to latex:

- itchy, irritated skin
- urticaria (hives)
- nasal problems
- breathing problems

50%
of people with latex allergy have symptoms that cross-react with certain foods.

What foods cross-react with latex?

Bananas
Avocado
Kiwi
Potato
Tomato
Bell Peppers
Chestnut
Figs

There are more than
40,000 products
that contain natural rubber latex

Products that commonly contain latex:

- Latex balloons
- Rubber bands
- Latex gloves
- Dental dams
- Bandage adhesives
- Condoms
- Elastic products
- Therapy bands
- Pacifiers
- Bathmats
- Shoe soles
- Vial stoppers

Dipped vs. Molded Latex

Products dipped in liquid latex to make them more thin and bendy are more likely to cause allergic reactions than molded latex products.

Latex proteins can become airborne when combined with powder from latex products like gloves. Breathing in these tiny particles or getting them in your eyes, nose or mouth can cause an allergic reaction.

Latex proteins can transfer from powdered gloves to other materials or food, leading to an allergic reaction.

An allergist or dermatologist can diagnose a latex allergy through your medical history, a physical exam, and skin or blood tests.

Prevent latex allergy by strictly avoiding latex. Treatments may include antihistamines or hydrocortisone for mild symptoms; severe reactions require epinephrine.

Allergy & Asthma Network

American College of Allergy, Asthma & Immunology

Epinephrine Treatments

2025

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	Brand Devices			Generic Devices		
	Auvi-Q®	**EpiPen®**	***neffy®***	**Auto-Injector (Amneal)**	**Auto-Injector (Teva)**	**Auto-Injector (Viatris)**
Type	Auto-Injector	Auto-Injector	Nasal Spray	Auto-Injector	Auto-Injector	Auto-Injector
Dosage	0.10 mg for **16.5 - 33 lbs.** 0.15 mg for **33 - 66 lbs.** 0.3 mg for **over 66 lbs.**	0.15 mg for **33 - 66 lbs.** 0.3 mg for **over 66 lbs.**	2 mg for **over 66 lbs.** 1 mg for **33 - 66 lbs.** (for ages 4 and older)	0.15 mg for **33 - 66 lbs.** 0.3 mg for **over 66 lbs.**	0.15 mg for **33 - 66 lbs.** 0.3 mg for **over 66 lbs.**	0.15 mg for **33 - 66 lbs.** 0.3 mg for **over 66 lbs.**
Storage temperature	68 to 77 degrees F	68 to 77 degrees F	68 to 77 degrees F (with excursions up to 122 degrees F)	68 to 77 degrees F	68 to 77 degrees F	68 to 77 degrees F
Administration	Outer middle of thigh	Outer middle of thigh	Spray in nostril (use same nostril if second dose is needed)	Outer middle of thigh	Outer middle of thigh	Outer middle of thigh
Hold time	2 seconds	3 seconds	None	10 seconds	3 seconds	3 seconds
Is a trainer available?	Yes	Yes	Yes	Yes	Yes	Yes
Twin-packs available?	Yes	Yes	Yes	Yes	Yes	Yes
Shelf life	12 to 18 months	12 to 18 months	24 to 30 months	12 to 18 months	12 to 18 months	12 to 18 months
Special feature	Voice prompt; needle fully covered after injection	Needle fully covered after injection	Needle-free	If needle is sticking out after injection, you received the dose	Needle fully covered after injection	Needle fully covered after injection
Manufacturer	Kaléo	Viatris	ARS Pharma	Amneal Pharmaceuticals	Teva Pharmaceuticals	Viatris
Website	*auvi-q.com*	*epipen.com*	*neffy.com*	*epinephrineautoinject.com*	*tevaepinephrine.com*	*epipen.com*
Patient assistance	877-302-8847	800-657-7613	877-696-3339 Discount automatically applied at pharmacy	800-934-6729	844-248-7949	800-657-7613

Size = 2.25 inches

Reviewed by Dennis Williams, PharmD

Thank you to ARS PHARMA ars-pharma.com for supporting the 2025 update of this poster.

Allergy & Asthma NETWORK

The mission of Allergy & Asthma Network is to end the needless death and suffering due to allergies, asthma and related conditions through outreach, education, advocacy and research.

Resources

- Latex Allergy Information:
  https://allergyasthmanetwork.org/allergies/latex-allergy/
- Latex Allergy and Foods:
  https://allergyasthmanetwork.org/allergies/latex-allergy/latex-allergy-foods/
- Latex Allergy and Vaccinations:
  https://allergyasthmanetwork.org/allergies/latex-allergy/latex-allergy-vaccines/
- Latex and Occupational Asthma:
  https://allergyasthmanetwork.org/allergies/latex-allergy/latex-allergy-and-occupational-asthma-2/
- Product Verification Letter:
  https://allergyasthmanetwork.org/wp-content/uploads/2020/05/Product-Verification-Letter.pdf
- Latex Allergy Screening Questionnaire:
  https://allergyasthmanetwork.org/wp-content/uploads/2020/05/latex-allergy-screening-questionnaire.pdf
- Allergy & Anaphylaxis Emergency Plan:
  http://www.aap.org/aaep
- Allergy & Anaphylaxis: A Practical Guide for Schools and Families:
  https://members.allergyasthmanetwork.org/store/ListProducts.aspx?catid=425577&ftr=
- Allergy Safe Dining:
  https://members.allergyasthmanetwork.org/store/ListProducts.aspx?catid=425577&ftr=