



Latex allergy

Allergies to latex rubber have only been recognised in the last few decades. The reasons are uncertain, although increased use of latex gloves in health care settings like hospitals and changes in manufacturing practices (due to increased demand) are probable contributors.

The risk of developing latex allergy increases with frequent exposure

Most people who are allergic to latex have had frequent exposure to latex over many years. The majority are nurses, doctors, dentists, or patients who have had a number of operations, such as those with spina bifida. Many are also allergic to other substances such as grass pollen or dust mite proteins. In other words, they usually already have other allergic disease such as asthma, allergic rhinitis (hay fever) or eczema.

Latex is used in a large number of products

Latex or natural rubber is the substance obtained from the sap of the *Hevea brasiliensis* tree. After the addition of preservatives and stabilisers, it is dipped into a mould, then heated and dried. During manufacturing, chemicals are added to render latex elastic and stable to heat by vulcanisation (heating in the presence of sulfur). Further chemicals are added for strength and durability, including mercaptobenzothiazole, thiurams and carbamates. Sometimes a dry powder lubricant (usually corn-starch) is added to the surface of the latex to prevent the rubber surfaces from sticking together. Allergic reactions can occur to latex protein as well as the chemicals added to it, but *not* to cornstarch itself. However, when gloves are worn, latex protein can be leached from the glove and stick to the cornstarch particles. When gloves are changed, these particles can become airborne and spread latex allergen into the local environment.

Many commercial products contain natural rubber latex. These include bandages, baby bottle teats, baby dummies, rubber bands, clothing elastic, rubber toys, rubber grips and a wide range of medical equipment. Allergic reactions usually occur after exposure to dipped products like gloves, balloons and condoms. Products made from crepe rubber (like shoe soles) are unlikely to cause allergic reactions.

By contrast to natural latex rubber, synthetic rubber is produced from petrochemicals, and does not contain allergenic latex proteins. Products containing synthetic rubber (like most latex paints) do not cause allergic reactions.

Immediate allergic reactions to latex are most serious

Immediate allergic reactions (also known as Type 1 or IgE antibody mediated) are the most serious adverse reactions to latex. In people who have developed sensitivity to natural latex proteins, contact with latex releases the histamine into the tissues. The result is itching and hives (urticaria) with direct contact, like after wearing rubber gloves, or itchy swollen lips, face or tongue after blowing up balloons. Some people will develop irritation after wearing a condom, inserting a diaphragm for contraceptive purposes or after visiting the dentist or hairdresser and coming into contact with latex.

Reactions can also occur when latex is inhaled, resulting in allergic rhinitis (hay fever) or asthma like symptoms. This occurs most commonly in hospitals. The latex proteins can leach out of the gloves with sweaty hands and become attached to the powdered lubricant. In environments where gloves are being changed frequently, latex on these fine particles can become suspended in the air like pollen.

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Anaphylaxis is the most serious allergic reaction to latex and typically occurs in very sensitive patients where latex protein is absorbed rapidly via moist surfaces such as the mouth, nose, throat, vagina, rectum or internally (such as during a surgical operation). Severe difficulty in breathing, a drop in blood pressure and anaphylactic shock may occur.

Irritant Dermatitis is the most common adverse reaction to latex

Most adverse reactions to latex are Irritant Dermatitis, which is not an immediate (true) allergic reaction and does not involve the immune system. It results in rough, dry and scaly skin, sometimes with weeping sores. It is made worse by sweating and friction under rubber gloves, but can also occur from frequent hand washing with harsh soaps.

Even though irritant dermatitis is not an allergic reaction, absorption of latex through damaged skin increases the risk of developing latex allergy with ongoing exposure. Recognition and treatment of this condition is therefore recommended to reduce the risk of developing latex allergy.

Allergic contact dermatitis is a common immune reaction to latex

Allergic Contact Dermatitis is the most common **immune reaction** to latex. The symptoms look similar to irritant dermatitis symptoms, but the cause is different.

The rash is rough, dry and scaly, sometimes with weeping sores. It typically occurs 12-48 hours after contact with latex rubber. Contact Allergic Dermatitis is usually due to an inflammatory reaction to the chemicals added to rubber during manufacture, although there is now evidence that delayed contact dermatitis may also result from contact with latex protein as well.

Contact Allergic Dermatitis is annoying but not dangerous. As with irritant dermatitis, treatment is recommended to reduce the risk of developing more serious immediate allergic reactions to latex.

Latex allergic individuals may also be sensitive to certain foods

Some proteins in latex are present in foods as well and some people with latex allergy find that certain foods cause an itchy mouth or throat swelling. The most common foods described are banana, avocado, kiwi fruit, passionfruit, plums, strawberry and tomato. These foods do not have to be avoided routinely, unless they cause problems.

Awareness and diagnosis are important first steps

Your doctor will normally ask a series of questions that may help to identify the cause of your problem. This will often be followed by allergy testing to help confirm or exclude the presence of sensitivity to natural latex proteins or chemical preservatives. The types of tests commonly used are skin prick tests or blood tests for allergen specific IgE (commonly known as RAST) to confirm or exclude immediate sensitivity and patch tests to confirm or exclude contact allergic dermatitis (which has a delayed reaction). Information on allergy testing is available on the ASCIA website www.allergy.org.au/content/view/104/1/

It is important to note that other so-called allergy tests, including vega testing, alcat tests, kinesiology, pulse testing and rinkel's intradermal testing are not medically or scientifically proven methods to confirm any form of allergy. More information about these tests is available on the ASCIA website www.allergy.org.au/content/view/322/271/

You may be referred to a medical specialist (Allergist / Clinical Immunologist) for testing.

Management of latex allergy involves careful avoidance

If you are latex allergic you should:

1. **Avoid latex** in all its forms, and particularly avoid latex coming near your skin, face, eyes, nose or throat. Latex substitutes exist and can be used if required.
2. Be aware that some **condoms and diaphragms** used for contraception contain latex and should be avoided. Latex-free condoms are now available from stores and websites.
3. **Wear a medical identifications bracelet**, stating you are allergic to latex. If you are unconscious or confused and need emergency treatment, then the nurses and doctors will be made aware of this.
4. **Carry your own supply of non-latex gloves (such as vinyl or synthetic rubber)**, in case of an emergency.
5. **Advise doctors and dentists** well in advance of any surgical operation, dental treatment, Pap smear, blood tests or x-ray to ensure that latex is not used.
6. If it is necessary to wear gloves, **use vinyl or synthetic rubber gloves**.
7. **Avoid takeaway food** which is prepared or served by food handlers wearing latex gloves.
8. **Consider avoiding occupations where latex is very difficult to avoid** such as nursing, dentistry, medicine, veterinary science, hairdressing or food preparation.

Measures should be taken if your job involves exposure to latex

If you are latex allergic and your job involves frequent exposure to latex, you should:

1. Use **latex free gloves** yourself.
2. **Request that non-powdered latex gloves be supplied** to others in your area of work. This reduces airborne latex particle exposure, and has been shown to dramatically reduce the risk of developing latex allergy in occupational settings.
3. **Look after your hands and have any irritation or rash evaluated by a doctor**. An intact skin barrier reduces the risk of developing latex allergy.
4. It is important to note that **avoiding any contact with latex** is also an effective method of preventing latex allergy, particularly applicable for non-medical use such as food handlers and hairdressers.

Reducing the risk of latex allergy in the future

Manufacturers have developed latex products containing less allergen and non-latex alternatives. As more of these products become available, the risk of reactions in latex sensitive individuals will decrease, and it is likely that fewer people will develop latex allergy. In the meantime, increased awareness of latex allergy and its risk factors should help to reduce the frequency of latex allergy.

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