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LATEX ALLERGY

ASCIA Education Resources patient information

Allergies to latex rubber have only been recognised in the last 20 years. The reasons are uncertain, but the increased use of latex gloves in health care settings like hospitals in the last 12 years 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 pollens or dust mite proteins. In other words, they usually already have other allergic disease such as asthma or hay fever or eczema of the skin.

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 sulphur). 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. When gloves are worn, however, 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 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 irritant chemical “histamine” into the tissues.

The result is itching and hives with direct contact, like after wearing rubber gloves, or itchy swollen lips, face or tongue after blowing up balloons. Others 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 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.

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 ("back passage") or internally (such as during a surgical operation). Severe difficulty breathing, a drop in blood pressure and even shock may occur.

Irritant Dermatitis is the most common adverse reaction to latex

Most adverse reactions to latex are however, not ‘true’ allergic reactions. The most common problem experienced by people wearing latex rubber gloves is Irritant Dermatitis. 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 allergy, absorption of latex through damaged skin increases the risk of developing 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. It looks much the same as irritant dermatitis, 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. Latex-allergic people sometimes find that some foods cause an itchy mouth or throat swelling. The most common foods described are banana and avocado and sometimes kiwi fruit, passionfruit, plums, strawberry, tomato or other fruits. 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 include skin prick tests or blood allergy (RAST) tests to confirm the presence of "immediate" sensitivity, or "patch tests" in those with a delayed contact allergic dermatitis.

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.

Management of latex allergy involves careful avoidance

If you are latex allergic you should:

- ❑ **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.
- ❑ Be aware that some **condoms and diaphragms** used for contraception contain latex and should be avoided. The female condom "Femidom" is latex free and available in the UK. Similar products are available from some Australian Family Planning Clinics. A Californian company has recently released a baggy condom "Ezon" made from polyurethane. Use non-latex products where available, such as Durex Avanti latex-free condoms. They are available via pharmacies, and at retail stores like Coles, Priceline, Safeways, Woolworths and via the web at www.condomcountry.com.au.
- ❑ Wear a Medic-Alert 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.
- ❑ **Carry your own supply of non-latex gloves (eg vinyl, neoprene)**, in case of an emergency.
- ❑ **Advise doctors and dentists** well in advance of any surgical operation, dental treatment, Pap smear (Pap test), blood tests or x-ray to ensure that latex is not used.
- ❑ If it is necessary to wear gloves, **use vinyl or synthetic gloves** or gloves made with different chemicals (if prone to contact allergic dermatitis).
- ❑ **Avoid takeaway food** which is prepared or served by food handlers wearing latex gloves.
- ❑ **Seriously consider avoiding jobs 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:

- ❑ Use **latex free gloves** yourself
- ❑ **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.
- ❑ **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.
- ❑ 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 are trying to produce latex products containing less allergen. 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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It is important to note that information contained in this bulletin is not intended to replace professional medical advice. Any questions regarding a medical diagnosis or treatment should be directed to a medical practitioner.

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