

Latex Allergy: The Facts

Natural Rubber Latex (NRL) is obtained as a milky fluid from the *Hevea brasiliensis* tree, which is widely grown in South East Asia and elsewhere in the world. It is found in thousands of everyday consumer and healthcare items. Reports of allergy to Natural Rubber Latex became increasingly common in the 1980s and 1990s.

For the purpose of this Factsheet we will refer to Natural Rubber Latex simply as **latex**.

There are two types of latex allergy:

- **Type I:** This is an immediate reaction to proteins in the latex and is potentially life-threatening. Anaphylaxis – the most severe form of allergy – can occur.
- **Type IV:** This is a delayed reaction to chemicals used in the latex manufacturing process. Symptoms occur between 6 and 48 hours after exposure and affect the skin. Type IV latex allergy is not life threatening although medical advice is essential. Its effects can range from a mild, localised skin reaction to an extremely unpleasant and itchy rash.

This fact sheet aims to answer some of the questions which you and your family might have about living with latex allergy. Our aim is to provide information that will help you to understand how to treat an allergic reaction should it occur, avoid latex products and minimise the risk of a reaction.

If you know or suspect you are allergic to latex, the most important message is to visit your GP and seek a referral to a specialist – even if your symptoms have so far been mild.

Throughout the text you will see brief medical references given in brackets. More complete references are published towards the end of this Factsheet.

How common is latex allergy?

The Government's Health and Safety Executive (HSE) says around 1-6 per cent of the general population is

thought to be potentially sensitised to latex, although not all sensitised individuals develop symptoms (HSE website). There was an increase in the incidence of latex allergy from the 1980s but there is clear evidence of a decline since the late 1990s for reasons that will be explained below.

Allergic conditions generally have increased in recent years and allergy to latex has been a part of this increase. But another major factor from the 1980s onwards was the widespread use of latex gloves, particularly in the health profession. In that decade the NHS decided that healthcare workers must protect themselves against the risk of infection from blood-borne pathogens such as HIV and Hepatitis B. This led to a high demand for latex gloves and in order to meet this demand there were changes in the way they were produced – with **high-protein** examination gloves coming on to the marketplace. These high-protein gloves were likely to be a major cause of the increased number of healthcare workers with latex allergy. However, high-protein gloves are now not used in hospitals, and latex-free alternatives are now more widely used. This has led to a sharp decline in the incidence of latex allergy since the late 1990s.

Who is most at risk?

People with an allergic tendency – where there is allergy in the immediate family – are more likely to develop latex allergy than families where there is no allergy. Specific sections of the population who are particularly at risk from developing this allergy include people who use latex gloves or other products containing latex on a regular basis, including:

- Healthcare workers including dental practice staff
- Carers such as residential care home staff
- Cleaners and housekeepers
- Hairdressers
- Caterers who wear gloves at work
- Motor mechanics
- People working in the electrical industry
- Balloon entertainers

People undergoing multiple surgical procedures are also at increased risk of developing latex allergy. These include children with spina bifida (Rendeli et al., 2006). The degree of risk depends on the amount of exposure to latex that these children face through gloves and catheterisation devices.

People with certain food allergies, such as banana, avocado, tomato, potato, kiwi and chestnut, are also at risk (Brehler et al., 1997), (Wagner & Breiteneder, 2002). This is because the proteins in these foods share similarities with those in latex. Potatoes can cause contact reactions when latex allergic patients peel potatoes (although the cooked potato is usually not a problem). Other fruits and vegetables that have been reported to be associated with latex allergy include lychee, papaya, passion fruit, fig, melon, mango, pineapple, peach, lettuce and cannabis (Cabañes et al., 2012), (Niggemann et al., 2002). If you are allergic to any of those foods, you may also find you have problems with latex – and vice versa.

Type I latex allergy

The symptoms of type 1 latex allergy

As stated above people with Type I latex allergy are reacting to the proteins in latex. The symptoms usually come on rapidly (within minutes). Mild symptoms may include nettle rash (otherwise known as hives or urticaria) anywhere on the body.

More serious symptoms include:

- Swelling in the face, throat and/or mouth
- Difficulty breathing
- Severe asthma
- Abdominal pain, nausea and vomiting

In extreme cases, there could be a dramatic fall in blood pressure (anaphylactic shock). The person may become weak and floppy and may have a sense of something terrible happening. This may lead to collapse and unconsciousness.

The presence of asthma – especially when poorly controlled – is known to be a major risk factor for the occurrence of more severe allergic reactions in people with Type I latex allergy.

Some people with Type I latex allergy experience symptoms simply by being in a room where powdered latex gloves are being used even though they are not in contact with the gloves directly. This is because the latex allergens become attached to cornstarch used in powdered gloves, the powder becomes airborne when the gloves are used and the allergens are inhaled.

Similarly, some people with severe latex allergy have reported that they react even if they are in the vicinity of balloon displays.

Treating type 1 latex allergy

If your allergy is Type I and is thought to be severe, then you may be prescribed an adrenaline auto injector (AAI) as well as antihistamines and prednisolone. If you are prescribed an AAI, you will need to know how and when to use it. You could ask for training at your local surgery or from a pharmacist. Medical attention should still be sought after use as symptoms may return after a short period and more than one injection of adrenaline may be required to control the reaction.

In the UK, three AAIs are available – Emerade®, EpiPen® and Jext® . You can find information on the website relevant to the injector you carry.

Emerade: www.emerade-bausch.co.uk

EpiPen: www.epipen.co.uk

Jext: www.jext.co.uk

Type IV latex allergy

The symptoms of type IV latex allergy

As stated above, Type IV latex allergy is a delayed reaction to chemicals used in the manufacturing of latex and affects the skin. This is known as contact dermatitis. Symptoms include a red itchy scaly rash, often localised to the area of use, such as wrists and forearms with glove use. Symptoms may spread to other areas of the body.

Treating Type IV latex allergy

Type IV latex allergy is treated through the use of emollients and topical steroid creams. Where practical, steps can be taken to avoid contact with latex and therefore reduce the risk of a reaction.

Getting a diagnosis

In all cases – whether you suspect you have Type I or Type IV latex allergy – it is important to see your GP as soon as possible. Some GPs have a clear understanding of allergy, but allergy is a specialist subject so it is more likely that your doctor will need to refer you. We believe strongly that all people with Type I allergy symptoms should be referred to an allergy clinic, although in reality many people with Type I latex allergy are seen in a dermatology clinic. Those with Type IV symptoms are invariably seen in a dermatology clinic. However, there can be overlap in Type I and Type IV symptoms to make it difficult to diagnose.

Once you get a referral, the consultant will discuss your symptoms with you in detail as well as your medical history. In the diagnosis of Type I latex allergy, the consultant may perform skin prick tests and blood tests. They may also perform a “challenge” test – where the patient suspected to have allergy is exposed to latex in strict clinical conditions.

In the diagnosis of Type IV latex allergy, patch testing is used. In this investigation the diluted individual rubber accelerator chemicals added to latex during processing (not usually the natural rubber protein latex itself) are applied to the skin. The test is conducted over several days because with a type IV reaction there is a delay between contact with the allergen and the appearance of the dermatitis. The length of this delay can vary from hours to several days.

Avoiding latex

Avoiding latex will be easier if others know about your allergy. You may be wise to inform your employer and you should certainly tell healthcare providers prior to any treatment. We recommend that people with latex allergy should wear a medical identity bracelet. In the case of people with the less serious, Type IV latex allergy, occupational health advice should be sought as well as medical advice.

Here are just a few of the products that may have latex in them.

Everyday items to be aware of:

Latex gloves	Tyres
Balloons	Adhesives including hair glue
Erasers	Underwear elastic
Rubber bands	Shoe soles
Condoms	Sports equipment (such as basketballs, hand grips and gym mats)
Baby teats/dummies	Swimming cap and goggles
Hot water bottles	Some foam rubbers – latex mattresses are common
The contraceptive cap	Calculator/remote control buttons
Latex pillows	Floor screed (for levelling floors) – although this is usually sealed under tiles or lino
Stress balls	
Washing-up gloves	
Carpets	

Shoe soles and tyres are made with what is known as 'dry' rubber. Our expert advisers believe that allergic reactions to dry rubber products are uncommon and mainly experienced by people whose latex allergy is severe. When seeing a consultant, enquire about the level of risk in your individual case.

Medical equipment

Examination and surgical gloves	Bungs and needle sheaths on medicines
Oral and nasal airways	Dental dams
Endotracheal tubes	Anaesthesia masks
Intravenous tubing	Syringes
Surgical masks	Blood pressure cuffs
Rubber aprons	Stethoscopes
Injection ports	Tourniquets
Wound drains	Electrode pads
Catheters	Surgical masks

We have been informed that latex urinary catheters are a common cause of reactions, and that silicone catheters can be used as an alternative.

Whenever you are having any medical procedure, be sure to report your allergy to your healthcare providers including doctors, nursing staff, anaesthetists and dentists.

Latex-food syndrome

As stated above, some people with Type I latex allergy may also react to certain fruits and vegetables, including banana, avocado, tomato, potato, kiwi, chestnut, lychee, papaya, passion fruit, fig, melon, mango, pineapple, peach and lettuce. This is known as cross-reactivity – where the proteins in latex have a similar structure to those in certain foods. Symptoms normally occur in the mouth on contact with the food and are usually mild, although we advise you to discuss this with your consultant. There may be a tingling or itching in the lips, tongue or throat but a few people suffer more severe reactions. If you have latex allergy, identify any foods that might be causing you a problem.

Which dental local anaesthetics are made with natural rubber latex?

The NHS Specialist Pharmacy Service provides a list of local anaesthetic preparations used in dentistry and notes whether latex is used as a material in the manufacture of the product, its container and packaging.

<https://www.sps.nhs.uk/wp-content/uploads/2015/01/UKMi-QA-Dental-local-anaesthetics-and-natural-rubber-latex-update-Jan-2018.pdf>

The influenza vaccine

Some influenza vaccines have a latex needle sheath. Public Health England says the risk for people with latex allergy is considered negligible. However, a member of our clinical panel who is an expert on latex allergy has questioned whether this product is in fact safe for people with latex allergy. We strongly recommend that you discuss this issue at your local surgery before receiving the influenza vaccine and request a vaccine that does not have a latex needle sheath.

Key messages

A diagnosis of latex allergy can be daunting but by thinking ahead and employing coping strategies, people affected can manage the problem.

The main messages for Type I latex allergy are:

- Always be vigilant – avoidance of latex is the first line of defence
- See your GP and ask for a referral
- Carry prescribed medication everywhere
- If you carry an adrenaline auto-injector, learn how and when to use it
- Ensure that asthma is well managed.

The main messages for Type IV latex allergy are:

- Type IV is very different to Type I latex allergy
- See your GP and ask for a referral. Ideally you will be tested by a specialist who knows about both types of latex allergy
- Type IV latex allergy is not life threatening but discuss the possible symptoms thoroughly with your specialist
- It's good to take practical steps to avoid latex, but rubber is everywhere so don't let latex avoidance take over your life

References

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Reviewer

The content of this Factsheet was Peer Reviewed by Dr Mabs Chowdhury, Consultant Dermatologist and Cutaneous Allergy Lead, University Hospital of Wales & Honorary Senior Lecturer, Cardiff University; and Dr Gavin Spickett, Consultant Clinical Immunologist, Royal Victoria Infirmary, Newcastle upon Tyne.

Disclaimer – The information provided in this Factsheet is given in good faith. Every effort has been taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

About the Anaphylaxis Campaign: Supporting people with severe allergies

The Anaphylaxis Campaign is the only UK wide charity to exclusively meet the needs of the growing numbers of people at risk from severe allergic reactions (anaphylaxis) by providing information and support relating to foods and other triggers such as latex, drugs and insect stings. Our focus is on medical facts, food labelling, risk reduction and allergen management. The Campaign offers tailored services for individual, clinical professional and corporate members.

Visit our website www.anaphylaxis.org.uk and follow us on Twitter & Facebook [@Anaphylaxiscoms](https://www.facebook.com/Anaphylaxiscoms) or Instagram [@anaphylaxis_campaign](https://www.instagram.com/anaphylaxis_campaign).