

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 and severe reactions can occur. We know of no studies that have determined the number of people affected but there have been suggestions that it is one per cent of the UK population.

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. Its effects can range from a mild, localized skin reaction to an extremely unpleasant and itchy rash.

This factsheet 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 fact sheet.

Why is latex allergy so common?

Allergic conditions generally have increased in recent years and allergy to latex has been a part of this increase. But another major factor is the widespread use of latex gloves, particularly in the health profession. In the 1980s the NHS directed 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 market place. These high-protein gloves are 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 catheterization 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

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 I latex allergy

If your allergy is Type I and is thought to be severe, then you may be prescribed adrenaline (also known as epinephrine). The adrenaline injectors prescribed in the UK at present are Emerade®, EpiPen® and Jext. These injectors are easy to use and designed for self-administration. If you are prescribed an injector, it should be available at all times – with no exceptions. 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.

If you are prescribed an adrenaline injector, you will need to know how and when to use it. Ask your GP or allergist for advice. You can also find help on the website relevant to the injector you carry.

Emergency treatment of anaphylaxis – what injectors are available?

Pre-loaded adrenaline injection devices – Emerade®, EpiPen® or Jext® – are available on prescription for those thought to be at risk of a severe reaction.

Emerade® is the most recent single use adrenaline auto-injector to become available. It has a needle guard to protect against needle stick injury. Visit www.emerade.co.uk

EpiPen® has a spring-loaded concealed needle. The built-in needle protection keeps the needle covered during and after use. Visit www.epipen.co.uk.

Jext® has a locking needle shield which engages after use, designed to protect against needle injury. Visit www.jext.co.uk.

Type IV latex allergy

The symptoms

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 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 are invariably seen in a dermatology clinic.

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 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 can help reduce the risk of a reaction for all people with latex allergy, but it is especially important if the allergy is the more serious Type I. Here are just a few of the products that may have latex in them.

Everyday items to be aware of:

Erasers	Rubber bands	Rubber balloons
Condoms	The contraceptive cap	Baby teats/dummies
Hot water bottles	Latex pillows	Stress balls
Washing-up gloves	Carpets	Tyres
Adhesives including hair glue	Underwear elastic	Shoe soles
Sports equipment (such as basketballs, hand grips and gym mats)		Swimming cap and goggles
Some foam rubbers – latex mattresses are common		

Calculator/remote control buttons

Floor screed (for levelling floors) – although this is usually sealed under tiles or lino

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

There are some everyday latex products that may cause more severe reactions for people who are particularly sensitive. Examples:

- Gloves – due to a relatively high allergen content
- Balloons – due to the fact that latex allergens may become airborne and inhaled

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 including doctors, nursing staff and dentists. 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.

Finding alternatives to latex

There are non-latex alternatives to some latex products. The Anaphylaxis Campaign website carries a list of these products (www.anaphylaxis.org.uk/latest-latex-free-product-list) but we strongly advise you to check with the manufacturer as manufacturing processes sometimes change.

An increasing number of healthcare practices use nitrile gloves rather than latex ones, which reduces the risk of a reaction in someone with latex allergy. However there have been reports of reactions to the chemicals in these alternatives (Jong et al., 2007). If you use nitrile glove alternatives, be aware of this possibility and discuss it with your consultant or occupational health adviser.

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, lettuce and cannabis. 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.

Key messages

A diagnosis of latex allergy can be daunting but by thinking ahead and employing coping strategies, people affected can get on with their lives. **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
- It's not life threatening
- It's good to take practical steps to avoid latex, but rubber is everywhere so don't let latex avoidance take over your life
- Get tested by a specialist who knows about both types of latex allergy

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Reviewers

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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 [@Anaphylaxiscoms](https://twitter.com/Anaphylaxiscoms).