Latex Allergy – the facts

This information sheet has been developed with the help of the Latex Allergy Support Group.
Further information can be obtained from the group at www.lasg.org.uk

What is natural rubber latex?

Natural rubber latex (NRL) is a milky fluid obtained from the Hevea brasiliensis tree, which is widely grown in South East Asia, and other countries. NRL is an integral part of thousands of everyday consumer and healthcare items.

As with many other natural products, natural rubber latex contains proteins to which some individuals may develop an allergy.

What is the cause of natural rubber latex allergy?

The introduction of universal precautions in the late 1980s mandated that healthcare workers protect themselves against the risk of cross-infection from blood-borne pathogens such as HIV and Hepatitis B. This demand led to an unprecedented demand for NRL gloves, which was met by changes in some manufacturers' practice (i.e. high protein examination gloves coming onto the marketplace) and is believed to be the primary cause of the increased number of healthcare workers with NRL allergy. At the same time there has been an unrelated and dramatic rise in incidence of atopic allergic disease in the past 30 years, which is also thought to be a major factor.

Who is most at risk?

- Workers who use latex gloves on a regular basis, including:
  - Healthcare workers who use gloves at work
  - Carers, such as residential care home staff
  - Cleaners and housekeepers
  - Hairdressers
  - Caterers who wear gloves at work
  - Motor mechanics
  - Electricians
  - Dental practice staff
  - Balloon entertainers
- Individuals undergoing multiple surgical procedures. Some studies have reported that up to 65% of spina bifida children are sensitised to NRL
- Individuals with a history of certain food allergies, such as banana, avocado, kiwi and chestnut
- Individuals with atopic allergic disease (estimated at some 30–40% of the UK population)

Around 1–6 % of the general population is thought to be potentially sensitised to NRL although not all sensitised individuals develop symptoms.

Are all latex allergies the same?

There are two types of allergy related to natural rubber latex, one caused by the natural proteins, the other by chemicals that are used to convert the NRL to a usable item. They are called Type I and Type IV allergy, respectively.

Some people may experience an irritant reaction when using products made from natural rubber latex, which is known as irritant contact dermatitis. This is not, however, a true allergy.

Type IV allergy

Some people react to the chemicals used in the manufacturing process, mostly accelerators. The chemicals most likely to cause a reaction are thiurams, dithiocarbamates and mercaptobenzothiazoles (MBT).

This is a delayed hypersensitivity reaction that occurs 6–48 hours post-exposure.

Symptoms of Type IV allergy

This is a red itchy scaly rash, often localised to the area of use, that is, wrists and forearms with glove use, but which may spread to other areas.

Management of Type IV allergy

Occupational health or medical advice should be sought and avoidance of the specific chemicals in future use.

Type 1 allergy

- Type I natural rubber latex allergy is an immediate allergic reaction to NRL proteins and is potentially life-threatening.
- Deaths have occasionally been reported due to latex allergy.

Symptoms of Type I allergy

- Urticaria (hives) and hay fever type symptoms, asthma
- Though rare, more severe symptoms such as anaphylaxis (a condition where there is a severe drop in blood pressure leading to possible loss of consciousness or severe breathing difficulty)

Months or even years of exposure without symptoms may precede onset of clinical symptoms of Type 1 NRL allergy. In many cases symptoms become progressively more severe on repeated exposure to NRL allergens, so it is important for sensitised individuals to avoid further contact with NRL proteins.

NRL allergens attach to cornstarch used in powdered gloves. This powder acts as a vehicle making the NRL proteins airborne when these gloves are used, enabling the allergens to be inhaled. This means that NRL allergic individuals may experience symptoms of an allergic reaction by being in a room where powdered NRL gloves are used, even though they are not in contact with these gloves directly.

Management of Type 1 allergy

Avoidance of the allergen is the best treatment option. There is no cure for NRL allergy but medications are available to treat symptoms of NRL allergy once it develops.

Natural rubber is found in many thousands of consumer and medical products. There are two types of natural rubber products. Dipped or stretchy NRL products (e.g. gloves, balloons, condoms, rubber bands) are a more frequent cause of allergic reactions to latex proteins than dry rubber products (e.g. tyres, tubing). Reactions to dry rubber products are less common and only experienced by severely sensitised individuals.

How are allergies diagnosed?

There is currently no completely reliable investigation for Type 1 NRL allergy, and diagnostic practice varies across the country. In general, the diagnosis is made on the basis of clinical history plus either positive allergen-specific IgE blood test or skin-prick/glove challenge test. Type IV allergy is diagnosed by standard patch testing.

Disclaimer – The information provided in this leaflet 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 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.

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