



**Title: LATEX ALLERGIES**

**Principle:**

Health Care workers use gloves repeatedly in an everyday work environment as a part of Universal Precautions. Latex and non-latex gloves are available for use. It is important that employees of Anatomical Pathology department identify if they are allergic to latex and what procedure is if they should come in contact with latex.

**Procedure:**

What is Latex allergies:

Latex allergies are a reaction to certain proteins in latex rubber, developing due to the proteins being foreign to the body, which may result in the production of harmful IgE antibodies in susceptible individuals. The production of these antibodies causes the release of histamine, resulting in an allergy that manifests as immediate symptoms ranging from hives, itchy eyes, runny nose, to wheezing, coughing and constriction of airways. Allergic reactions to latex may also include skin disease, asthma and anaphylaxis that can result in chronic illness, disability, career loss, hardship, or death. There is no method of latex allergy treatment except to completely avoid all latex containing products.

There are three types of adverse health reactions related to NRL exposure:

- **Irritant Contact Dermatitis-** A non-allergic skin rash characterized by hand erythema, pruritus, dryness, and cracking. This reaction is caused by skin irritation from using gloves and possibly by contact exposure to other workplace products and chemicals. Gradual onset can occur with in days.
- **Allergic Contact Dermatitis (delayed-type hypersensitivity)-**A specific immune response to the chemical additives, such as accelerators or antioxidants (thiurams, carbamates, phenylenediamine) added to NRL during harvesting, processing, or manufacturing of NRL products. Acute dermal reactions include erythema and vesicle formation (similar to the skin eruption after poison ivy exposure). The lesions typically appear 24-96 hours after exposure. Subsequently, chronic exposure may cause the skin to become dry, crusted and thickened.
- **NRL Allergy (immediate-type hypersensitivity) -** Certain NRL proteins may cause the induction of IgE antibodies. Reactions usually begin within minutes of exposure of a sensitized individual to NRL allergens, but they can occur hours later. Mild allergic reactions to NRL involve skin redness, hives, or itching. More severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, bronchospasm, asthma, gastrointestinal upset, abdominal pain and diarrhea. Anaphylaxis and death have occurred following NRL exposure. Onset within minutes, rarely longer than two hours.

Routes of exposure to latex allergens:



- **Skin Contact**-The most common route of exposure is dermal contact and can occur when wearing latex gloves; if an individual has hand dermatitis and the skin is already broken, or if the gloves are wet the risk is increased.
- **Mucous Membranes**-Exposure through mucous membranes can occur via the products used in dentistry or anesthesia.
- **Inhalation**-Occurs via exposure to latex glove powder. The proteins responsible for latex allergy bind to the cornstarch glove powder used to lubricate the gloves. This can be inhaled and cause irritation of the body membranes.
- **Internal Tissue or Visceral**-Exposure occurs during surgery when latex containing surgical devices are used. Glove powder can also adhere electrostatically to surgical instruments and be introduced into the patient's body.
- **Intra Vascular**-via products in syringes.

#### Risk Groups

- Health care workers (nurses, doctors, dentists, operating room staff, laboratory technicians)
- Workers in the latex industry
- Patients who undergo multiple hospitalizations (may receive prior sensitization through mucosal adsorption).

#### Latex Allergy Diagnosis:

Latex allergy should be suspected in anyone who develops certain symptoms after latex exposure, including nasal, eye, or sinus irritation; hives; shortness of breath; coughing; wheezing; or unexplained shock. Individual who experiences these symptoms post latex exposure should be evaluated by a physician to prevent further allergic reaction. Diagnosis is determined by the use of medical history, physical examination, and testing. An FDA approved test is available to diagnose allergic contact dermatitis. A special patch containing latex additives is applied to the skin and checked over several days. A positive reaction is indicated by itching, redness, swelling or blistering in area where patch was located. Blood tests are also available to detect latex antibodies.

#### **OSHA Regulations Pertaining to Latex Glove Use and Allergy Management:**

OSHA Requirements, Bloodborne Pathogen Standard, (Personal Protective Equipment):

**Accessibility: the employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided [29 CFR 1910.1030(d)(3)(iii)].**

**Gloves: Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified in paragraph (d)(3)(ix)(D); and when handling or touching contaminated items or surfaces. Disposable (single use) gloves such as surgical or examination gloves shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. Disposable (single use) gloves shall not be washed or decontaminated for re-use [29 CFR 1910.1030(d)(3)(ix)].**

**Hand Washing: Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment [29 CFR 1910.1030(d)(2)(v)]. (This helps minimize powder and/or latex remaining in contact with the skin).**

## Recommendations for Latex Allergy Management:

### Employer:

- 1) Substitution: Provide workers with non latex gloves if workers do not come into contact with bloodborne pathogens or infectious materials. Provide high quality, low latex, reduced protein, powder free gloves if appropriate barrier protection is necessary.
- 2) Ensure workers use good housekeeping techniques to remove latex-containing dust from the workplace: Identify areas contaminated with latex dust for frequent cleaning and make sure that workers change ventilation filters and vacuum bags frequently in latex contaminated areas.
- 3) Education: exposed workers should be given this Guidance Note and contact the UCD Environmental Health and Safety Department for more educational information of the Latex Allergy Prevention.
- 4) Periodically screen high-risk workers for latex allergy symptoms. Detecting symptoms early and removing symptomatic workers from latex exposure are essential for preventing long-term health effects.
- 5) Evaluate current prevention strategies whenever a worker is diagnosed with latex allergy.

Workers (workers should take the following steps to protect themselves from latex exposure and allergy in the workplace):

- 1) Use *nonlatex* gloves for activities that are not likely to involve contact with infectious materials (food preparation, routine housekeeping, maintenance, etc.).
- 2) Appropriate barrier protection is necessary when handling infectious materials [CDC 1987]. If you choose latex gloves, use powder-free gloves with reduced protein content:
  - a. Such gloves reduce exposures to latex protein and thus reduce the risk of latex allergy (though symptoms may still occur in some workers).
  - b. So-called hypoallergenic latex gloves do not reduce the risk of latex allergy. However, they may reduce reactions to chemical additives in the latex (allergic contact dermatitis).
- 3) Use appropriate work practices to reduce the chance of reactions to latex:
  - a. When wearing latex gloves, do not use oil-based hand creams or lotions (which can cause glove deterioration) unless they have been shown to reduce latex-related problems and maintain glove barrier protection.
  - b. After removing latex gloves, wash hands with a mild soap and dry thoroughly.
  - c. Use good housekeeping practices to remove latex-containing dust from the workplace:
    - i. Frequently clean areas contaminated with latex dust (upholstery, carpets, ventilation ducts, and plenums).
    - ii. Frequently change ventilation filters and vacuum bags used in latex-contaminated areas.
- 4) Take advantage of all latex allergy education materials located at the UCD Environmental Health and Safety Department:
  - a. Become familiar with procedures for preventing latex allergy.
  - b. Learn to recognize the symptoms of latex allergy: skin rashes; hives; flushing; itching; nasal, eye, or sinus symptoms; asthma; and shock.
- 5) If you develop symptoms of latex allergy, avoid direct contact with latex gloves and other latex-containing products until you can see a physician experienced in treating latex allergy.
- 6) If you have latex allergy, consult your physician regarding the following precautions:
  - a. Avoid contact with latex gloves and other latex-containing products.

- b. Avoid areas where you might inhale the powder from latex gloves worn by other workers.
  - c. Tell your employer and your health care providers (physicians, nurses, dentists, etc.) that you have latex allergy.
  - d. Wear a medical alert bracelet.
- 7) Carefully follow your physician's instructions for dealing with allergic reactions to latex.

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**References:** GEN.77700

**Approval of Procedure:**

Medical Director Signature: *M. Heath Zucchi, MD*

Date: *8/29/12*

