

LATEX ALLERGY

Spring 1998

Statement of the Problem

Latex* allergy has become an increasingly serious threat to health care providers and others exposed to natural rubber latex, particularly with frequent or prolonged exposure and particularly with exposure to mucous membrane or disrupted skin, and with inhalation (1). Although latex is found in many medical devices in hospitals, experts believe that latex gloves have been a significant source of allergen exposure among health care workers and a most important cause of sensitization in the health care setting (2). Sensitization occurs through contact with latex proteins. Powder on gloves is a vehicle for sensitization. Powder increases the probability of sensitization as it allows direct contact of aerosolized latex proteins with mucous membranes of the eyes and respiratory tract.

Reports of allergic reactions to latex have increased dramatically. Individuals who are frequently exposed to latex products, may become sensitized (gradually made allergic), with resulting reactions varying from irritating to life threatening (2,3). These reactions are wide ranging and include such symptoms as contact dermatitis, conjunctivitis, urticaria, latex induced anaphylactic shock, asthmatic reactions, airway obstruction, and even death (4). No immunotherapy or desensitization exists for latex allergy. Each systemic reaction comes with less provocation; each reaction is worse.

There is no research data to suggest that even low protein, low powder latex gloves are safe for use with latex allergic patients or staff. To the contrary, while low protein, low powder gloves may decrease the rate of sensitization, there is data (5,6) and a growing number of compelling anecdotal reports to suggest that health care workers and patients can have serious reactions to latex gloves, regardless of the allergenicity and powder content.

CDC, FDA, OSHA, and NIOSH, make no distinction between vinyl, latex, and synthetic gloves. They emphasize that glove material should be of "appropriate material, intact, and of appropriate quality" (7).

** for purposes of this position statement, latex refers to natural rubber latex. This data as of Spring of 1998.*

Prevalence of Latex Allergy

Patients with spina bifida and congenital genitourinary abnormalities -

These patients have been sensitized when latex urinary catheters and latex gloves contacted mucosal tissue.

Prevalence: 18-73% (8,9)

Health care workers - (housekeepers, lab workers, dentists, nurses, physicians) -

These individuals have a high incidence of contact with highly allergenic latex gloves and latex protein aerosolized with glove powder exposing eyes and respiratory tracts.

Prevalence: 8-17% (10, 11,12,13,14)

Group of 1000 volunteer blood donors-

Exposure/ history unknown.

Prevalence: 6.5%-14% (15, 16)

Rubber industry workers -

Prevalence: 11% (17)

Atopic patients -

Patients who have a tendency to develop allergies.

Prevalence: 6.8% (18)

Patients who have undergone multiple procedures -

These patients have had mucosal tissue contact with latex gloves

Prevalence: 6.5% (19)

- The number of requests for Medic Alert Bracelets citing latex allergy rose from 12 in 1986 to 2116 in 1997.
- Total number, as of December 31, 1997, who have Medic Alert bracelets citing latex allergy is 7447 (20).

Association Position

The Massachusetts Nurses Association believes that, consistent with the Occupational Safety and Health Act (5)(a)(1) of 1970 (2), employers have a responsibility to provide a workplace free from recognized hazards that are causing or are likely to cause death or serious physical harm to employees.

The Massachusetts Nurses Association believes that patients, nurses, other health care professionals and staff should not be exposed and sensitized to natural rubber latex through dermal contact, mucosal contact, inhalation, percutaneous contact or wound inoculation.

The Massachusetts Nurses Association recommends that:

- Non-latex examination gloves be used in all health care settings.
- Equipment used in resuscitation and invasive procedures should be latex free, given the substantial percentage of patients and health care providers who have become sensitized.
- Nurses and other health care workers become educated to ensure an understanding of latex allergy including, routes of exposure, sensitization and reactions to latex, procedures for reporting acute and chronic occupational illness and protocols for treatment and accommodation of sensitized workers.
- Nurses become educated to recognize signs and symptoms of latex allergy, to safely care for latex allergic patients, and to become familiar with treatment protocols for patients with acute allergic reactions to latex.
- Latex allergic nurses and other health care workers with symptoms of latex allergy seek medical attention from health care providers with expertise in treating latex allergy.
- Latex allergic nurses and other healthcare workers submit written reports (retaining copies) of their symptoms to their supervisors and the occupational health department (when available).
- Procedures be established to report adverse health effects resulting from the use of latex gloves and other latex medical devices, to the FDA medWatch Program: phone (800) FDA-1088, FAX (800) FDA 0178.

- Cases of latex induced occupational asthma be reported to the Massachusetts Department of Public Health, Occupational Health Surveillance Program at 617-624-5637.

The Massachusetts Nurses Association recommends that all health care institutions:

- Develop latex allergy committees with representation from latex allergic staff; administration; risk management; legal; occupational health; facility safety officer; staff education; nursing; materials management; laboratories; environmental/housekeeping/dietary services; radiology; respiratory therapy; pharmacy; operating room; IV therapy; physicians from surgery, medicine, pediatrics; and infection control to:
 - Identify products that contain latex, including gloves and other medical devices.
 - Locate non-latex alternatives.
 - Plan, implement, and evaluate the use of non-latex alternatives.
- Designate a resource nurse, with specific knowledge of latex allergy and non-latex alternatives to be an institutional resource and to facilitate the work of the latex allergy committee.
- Develop and implement policies regarding occupational latex allergies that will:
 - Identify and implement measures to prevent sensitization and reactions by employees and patients.
 - Create a system for early identification, referral and tracking of personnel with symptoms of latex allergy.
 - Implement appropriate procedures for accommodation and/or relocation of employees who become allergic to latex
- Create provisions for compensation, benefits, health insurance, short term and long term leave, rehabilitation, and vocational training, as appropriate for nurses and others who have become sensitized as a result of work related exposures to latex.
- Identify the appropriate treatment and protection of latex allergic patients (many of whom may be nurses and other health care workers).
- Develop support groups for staff, as well as patients and families who are affected by latex allergy.

The Massachusetts Nurses Association supports and encourages:

- Research to assess the history, prevalence, pathogenesis, and progression of latex allergy, as well as intervention measures for this serious occupational illness.
- Research to develop and determine the efficacy of alternatives to natural rubber latex gloves and other latex medical devices.
- Efforts to increase public awareness of latex allergy.
- Labeling of consumer products containing latex.

Rationale

The problems associated with the use of latex gloves, and the use of other latex products and medical devices, particularly those which come in contact with mucosa or are used intravenously, are serious, potentially crippling, and even life threatening. Only with increased awareness, education, reporting, and support, will health care practitioners be enabled to protect themselves, their co-workers and their patients from sensitization and subsequent potentially life threatening reactions to latex.

The Massachusetts Nurses Association Latex Allergy Position Statement was developed in spirit and cooperation with Massachusetts Emergency Nurses Association Committee on Latex Allergy and the Emergency Nurses Association Position Statement on Latex Allergy.

References

1. Kinnaird SW, McClure N, & William S. Latex allergy: An emerging problem in health care. *Neonatal Network* 1995;14:33-38.
2. Sussman G & Gold M. Guidelines for the management of latex allergies and safe latex use in health care facilities. *American College of Allergy, Asthma & Immunology* 1996: 1-25.

3. Hunt LW, Fransway, AF, Reed CF, Miller LK, Jones RT, Swanson MC, et al. An epidemic of occupational allergy to latex involving health care workers. *Journal of Occupational and Environmental Medicine* 1995: 37:1204-1209.
4. Sussman GL, Lem D, Liss G, & Beezhold D. Latex allergy in housekeeping personnel. *Annals of Allergy and Asthma Immunology* 1995:74:415-418.
5. Gehring LL, Fink JN, Kelly KJ. Evaluation of low allergenic gloves in latex sensitive patients [abstract]. *Journal of Allergy and Clinical Immunology* 1996: 97:186.
6. Sussman G, Liss GM, Deal K, Brown S, Cividino M, Siu S, et al. Incidence of latex sensitization among latex glove users. *Journal of Allergy and Clinical Immunology* 1998: 101:171-178.
7. US Department of Labor, Occupational Safety and Health Administration OSHA Instruction CPL 2-2.448, Office of health compliance assistance. Feb.20, 1990.
8. Meeropol E, Kelleher R, Bell S, & Leger R. 1990. Allergic reaction to rubber in patients with myelodysplasia. *New England Journal of Medicine* 1990: 323:2072.
9. Kelly K, Pearson M, & Kurup V. A cluster of anaphylactic reactions in children with spina bifida during general anesthesia: Epidemiologic features, risk factors, and latex hypersensitivity. *Journal of Allergy and Clinical Immunology* 1994: 94:53-61.
10. Arellano R, Bradley J, & Sussman G. Prevalence of latex sensitization among hospital physicians occupationally exposed to latex gloves. *Anesthesiology* 1992: 77:905-908.
11. Turjanmaa K. Incidence of immediate allergy to latex gloves in hospital personnel. *Contact Dermatitis* 1987: 17:270-275.
12. Heese KA, Peters KP, Stahl IJ, Koch HU, & Hornstein OP. Häufigkeit und Zunahme von Typ 1-Allergien gegen Gummihandschuhe bei Zahnmedizinstudenten. *Hautarzt* 1995:46:15-21.
13. Lagler F, Vervloet D, Lhermet I, Poyen D, & Charpin D. Prevalence of latex allergy in operating room nurses. *Journal of Allergy and Clinical Immunology* 1992: 90:319-322.
14. Yassin MS, Lierl MB, Fischer TJ, O'Brien K, Cross J, & Steinmetz C. Latex allergy in hospital employees. *Annals of Allergy* 1994:72:245-249.

15. Ownby DR, Ownby HE, McCullough TA, & Shater AW. The prevalence of anti-latex IgE antibodies in 1000 volunteer blood donors [abstract]. *Journal of Allergy and Clinical Immunology* 1994; 93:282.
16. LeBerthon B, Glovsky MM, Miguel A, Weiss J, & Cass G. Latex antibody in asthmatics and blood donors and latex allergens in paved road dust and airborne particles in Los Angeles [abstract]. *Journal of Allergy and Clinical Immunology* 1996; 97:324.
17. Tarlo SM, Wong L, Roos J, & Booth N. Occupational asthma caused by latex in a surgical glove manufacturing plant. *Journal of Allergy and Clinical Immunology* 1990; 35:626-631.
18. Shield SW, & Blaiss MS. Prevalence of latex sensitivity in children evaluated for inhalant allergy. *Allergy Proceedings* 1992;13:129-131.
19. Moneret-Vautrin DA, Beaudouin E, Widmer S, Mouton C, Kanny G, Prestat F, et al. Prospective study of risk factors in natural rubber latex hypersensitivity. *Journal of Allergy and Clinical Immunology* 1993; 92:668-677.
20. Personal communication, Medic Alert Foundation, January 1998.
21. US Department of Labor, Occupational Safety and Health Act of 1970, Section 5 (a)(1).