

Project Submission:
2009 Delaware Valley Patient Safety Award

THOMAS JEFFERSON UNIVERSITY HOSPITAL

“Removing Latex Gloves from ORs and Procedure Areas”



THE HEALTH CARE IMPROVEMENT FOUNDATION

Building Partnerships For Better Health Care

2009 Patient Safety Award Nomination Abstract

TITLE: Removing Latex Gloves from ORs and Procedure Areas

ABSTRACT:

Eight to 12 % of health care workers are latex sensitive per the Occupational Safety & Health Administration of the Department of Labor¹. Studies report a 1 to 10% rate of antilatelx antibody (IgE) in various patient populations, typified by the 6.7% rate reported from Detroit's Sinai Health System² for ambulatory surgery patients. Reactions range from contact dermatitis to anaphylaxis.

In the 5 years preceding removal of latex gloves from procedural suites, Environmental Health and Safety, Risk Management and/or University Health Services documented 20 clinically significant latex reactions in patients and employees. Anecdotally, we experienced at least 1 procedure-related latex reaction per quarter, although most employees appear hesitant to report these despite formal ongoing education to the contrary. This serious safety risk for patients and employees prompted conversion to non-latex gloves throughout the institution. The 17 month process required motivating users (principally the Medical Staff) to endorse the change. It required identification of multiple non-latex alternatives for each latex glove in use, and evaluation / comparison of all before selecting those to be adopted. Both the evaluation period and the subsequent conversion required large-scale coordinated efforts by Supply Chain Management, Nursing, and the vendors.

Ongoing efforts are required to manage the risks of nonlatex glove use, including user reactions to the material(s) with and from which the gloves are made, the mechanical differences between latex and nonlatex gloves and their possible clinical effects, and user preference. Complete removal of latex gloves is therefore not possible, necessitating a policy of nonlatex gloves worn over latex if the wearer cannot use the nonlatex alternatives. Following conversion, 5 staff members have sensitivity to nonlatex gloves, but there have been no patient reactions to sterile procedural gloves.

GOAL

- No reactions to latex gloves during any procedural intervention

¹ <http://www.osha.gov/SLTC/etools/hospital/hazards/latex/latex.html> (accessed July 20, 2009)

² Lebenbom-Mansour MH et al: The incidence of latex sensitivity in ambulatory surgical patients: a correlation of historical factors with positive serum immunoglobulin E levels. *Anesthesia & Analgesia*, Vol 85, 44-49, 1997.

BASELINE DATA

Over the past 5 years, our hospital has experienced 20 documented and clinically significant latex reactions associated with procedural gloves.

INTERVENTION

The first step was to use evidence of harm and potential harm to build consensus and reinforce the organizational will to remove latex procedure gloves from the institution. Once uniform resolve was obtained among senior leadership, both in hospital administration and clinical services, available non-latex alternatives to the wide variety of sterile latex surgical / procedural gloves in use were identified in concert with our current glove supplier. As approximately 60% of users had already abandoned latex procedure gloves in favor of the non-latex alternatives identified by our vendor as the closest alternatives, an adequate stock of nonlatex gloves was in house to permit their introduction to remaining latex glove users.

Once each user had selected the best latex-free alternative from among those available through our current vendor, and once all users and stakeholders had been educated about the event, all latex gloves were removed from operating and procedural areas over a designated weekend and replaced with non-latex alternatives. A small stock of latex gloves in all styles and sizes was kept in an isolated storage area to which general access was denied.

Most users had no difficulty with the conversion. A few experienced reactions to the accelerant(s) used in manufacture and were switched to non-latex alternatives made of a different material. Only 3 surgeons refused to adopt latex-free gloves, all because of a belief that latex is stronger than the nonlatex alternatives and that they were better protected against disease transmission from their patients. This was solved by requiring that they wear nonlatex gloves over and completely covering their latex-containing undergloves.

RESULTS

No latex reactions have been reported in association with any procedure at our institution since the above conversion was completed on May 20, 2008. With an annual purchase volume of over 400,000 pairs of sterile procedure/surgeons' gloves per year, a reduction from 20 to 0 is statistically significant (chi-square value = 20.0005, p=0.001).

POTENTIAL FOR ADOPTION BY OTHER PENNSYLVANIA HOSPITALS

The above process can be followed in toto by any and all hospitals desiring to remove this potential hazard to patients and personnel. Our policy is appended to this document.

HCIF 2009 Award Submission
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APPENDIX

Current policy:

1. No gloves containing latex will be used at [our institution], with the following exceptions when necessary to optimize care:
 - surgeons (who are not also latex-sensitive) with documented allergies to all available non-latex glove materials
 - patients (who are not also latex-sensitive) with documented allergies to all available non-latex glove materials
 - procedures identified by a department chair as being sufficiently hazardous with nonlatex gloves to justify use of latex to maximize mutual patient / provider safety (e.g. orthopedic surgeons doing revision total joint arthroplasty or other procedures that present high risk for glove perforation on patients with no known latex sensitivity); supporting evidence of similar solutions at peer institutions will be required.
2. A non-latex glove will be worn over every latex glove used at [our institution] for the above exceptions.
3. Confirmation of use or non-use of latex gloves and the patient's latex allergy status (i.e. present or absent) will both be included in the time-out.