SENSOR Occupational Lung Disease Bulletin

A project of the Massachusetts Department of Public Health's Occupational Health Surveillance Program,
the Massachusetts Thoracic Society, and the Massachusetts Allergy Society

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August 1997

Dear Physicians,

The Massachusetts Department of Public Health (MDPH) recently submitted its application for an additional five years of funding for work-related asthma surveillance under the SENSOR program.

One issue on which we hope to concentrate over the next several years is that of latex -related asthma. Latex is one of the most frequently reported asthma-causing agents in our surveillance system and nearly all of the cases have been among health care workers. Because the health care industry is the largest industry in Massachusetts, this is of particular concern. With continued funding, we will work with other programs within MDPH to develop and distribute information about reducing latex exposures in the workplace.

Recently, the National Institute for Occupational Safety and Health released it alert, *Preventing Allergic Reactions to Natural Rubber Latex in the Workplace.* This month, we reprint a substantial portion of the alert for your review.

Sincerely,
Catharine M. Tumpowsky. M.P.H.
Occupational Asthma Surveillance Project

Preventing Allergic Reactions to Natural Rubber Latex in the Workplace

(Adapted from NIOSH Publication No. 97-135, June 1997)

Latex gloves have proved effective in preventing transmission of many infectious diseases to health care workers. But for some workers, exposures to latex may result in skin rashes; hives, flushing; itching; nasal, eye, or sinus symptoms; asthma; and (rarely) shock. Reports of such allergic reactions to latex have increased in recent years- especially among health care workers.

Composition of Latex: Latex products are manufactured from a milky fluid derived from the rubber tree, hecea brasiliensis. Several chemicals are added to this fluid during the processing and manufacture of commercial latex. Some proteins in latex can cause a range of mild to severe allergic

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REPORT JUNE AND JULY CASES NOW

By August 31st, report all occupational lung disease cases seen for the first time in June and July, 1997. If you have NOT seen any cases, it is not necessary to return the report form.

Recommendations

Latex allergy can be prevented by protecting workers from undue latex exposures. NIOSH recommends the following steps be taken by workers and employers to protect workers from latex exposure and allergy in the workplace:

- Use non-latex gloves when there is little potential for contact with infectious materials (e.g. in the food service industry).
- If latex gloves are chosen, reduced protein, powder-free gloves should be used to protect workers from infectious materials. 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).
- Ensure that workers use good housekeeping practices to remove latex-containing dust from the workplace (frequently clean contaminated areas and change ventilation filters and vacuum bags regularly).
- Provide workers with education programs and training materials about latex allergy. Workers should be familiar with procedures for preventing latex allergy and should learn to recognize the symptoms of latex allergy.
- Screen high risk workers for latex allergy symptoms periodically. Detecting symptoms early and removing symptomatic workers from latex exposure are essential for preventing long-term effects.
- Evaluate current prevention strategies whenever a worker is diagnosed with latex allergy.
- When wearing latex gloves, do not use oil-based hand creams or lotions unless they have been shown to reduce latex-related problems.
- After removing latex gloves, wash hands with a mild soap and dry thoroughly.
- 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.

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...etts SENSOR is funded by the National Institute for Occupational Safety and Health.

reactions. Currently available methods of measurement do not provide easy or consistent identification of antigens and their concentrations. Until well accepted standardized tests are available, total protein serves as a useful indicator of the exposure of concern. The chemicals added during processing may also cause skin rashes.

Types of Reactions to Latex:

⇒*Irritant Contact Dermatitis*: This is the most common reaction to latex products

⇒*Chemical Sensitivity Dermatitis*: Allergic contact dermatitis (delayed hypersensitivity) results from exposure to chemicals added to latex during harvesting of processing.

⇒*Latex Allergy*: Latex allergy (immediate hypersensitivity) can be a more serious reaction to latex than irritant contact dermatitis or allergic contact dermatitis. Certain proteins in latex may cause sensitization. Although the amount of exposure needed to cause sensitization is not known, exposures at even very low levels can trigger allergic reactions in some sensitized individuals.

Reactions usually begin within minutes of exposure to latex, but they can occur hours later and can produce various symptoms. Mild reactions to latex involve skin redness, hives, and itching. More severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, and asthma. Rarely, shock may occur; but a life threatening reaction is seldom the first sign of latex allergy. Such reactions are similar to those seen in some allergic persons after a bee sting.

Diagnosing Latex Allergy: 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.

Taking a complete medical history is the first step in diagnosing latex allergy. In addition, blood tests approved by the FDA are available to detect latex antibodies. Other diagnostic tools include a standardized glove-use test or skin tests that involve scratching or pricking the skin through a drop of liquid containing latex proteins. A positive reaction is shown by itching, swelling, or redness at the test site. However, no FDA approved materials are yet available to use in skin testing for latex allergy. Skin testing and glove-use tests should be performed only at medical centers with staff who are experienced and equipped to handle severe reactions. Testing is also available to diagnose allergic contact dermatitis. In this FDA-approved test a special patch containing latex additives is applied to the skin and checked over several days. A positive reaction is shown by itching, redness or swelling where the patch covered the skin.

Occasionally, tests may fail to confirm a worker who has a true allergy to latex, or tests may suggest latex allergy in a worker with no clinical symptoms. Therefore, test results must be evaluated by a knowledgeable physician.

Treating Latex Allergy: Once a worker becomes allergic to latex, special precautions are needed to prevent exposures-during work as well as during medical or dental care. Certain medications may reduce the allergy symptoms, but complete latex avoidance (though quite difficult) is the most effective approach. Many facilities maintain latex-safe areas for affected patients and workers.

How Common is Latex Allergy? Reports about the prevalence of latex allergy vary greatly. This variation is probably due to different levels of exposure and methods for estimating latex sensitization or allergy. Recent reports in the scientific literature indicate that from about 1% to 6% of the general population and about 8% to 12% of regularly exposed health care workers are sensitized to latex. Among sensitized workers, a variable proportion have symptoms or signs of latex allergy. One study of exposed hospital workers found that 54% of those sensitized had latex asthma, with an overall prevalence of latex asthma of 2.5% Prevalence rates up to 11% are reported from non-health care workers exposed to latex at work.

Several reasons may exist for the large numbers of latex allergies recently reported in workers:

1. Workers rely increasingly on latex gloves to prevent the transmission of HIV, hepatitis B and other infectious agents.
2. Since 1992, OSHA has required employers to provide gloves and other protective measures for their employees.
3. Some manufacturers may have produced more allergenic gloves because of changes in raw materials, processing or manufacturing procedures to meet the increased demand for latex gloves. These production changes may account partly for the barrier concentrations of extractable latex proteins reported for latex gloves.
4. Physicians are more familiar with latex allergy and have improved methods for diagnosing it.

For additional information about latex allergy or to receive a copy of the alert, call 1-800-35-NIOSH or visit the NIOSH home page at http://www.cdc.gov/niosh/homepage.html. References for this alert are available by calling Catharine Tumpowsky at 617-624-5637.

Number of Lung Disease Cases Reported to MA SENSOR, March 1992-May 1997

	April 1997	May 1997	Total to Date (3/92-5/97)
Asthma	3	4	475
Silicosis	0	0	12
Asbestosis	0	0	122
Chemical Pneumonitis	0	0	15
Total Number of Lung Disease Reports	3	4	624