

## Latex Allergy Awareness for Health Care Workers

### Exposure

Latex is a milky sap produced by some trees and shrubs, including the commercial rubber tree. The sap is used to make natural latex rubber. The sap is made up of droplets of water and hydrocarbon polymer with a protein coat. It is this protein substance, inhaled or absorbed through the skin that causes the allergic reaction.

Latex allergy may be due to direct skin contact or inhalation. Some populations are at increased risk for an allergy to latex. Workers in several occupational groups may be exposed to natural rubber latex in higher amounts, concentrations and/or frequency than the general public. These include health care workers, as well as laboratory workers, glove manufacturers, emergency responders, and members of other occupations, such as tattoo artists, where latex gloves are frequently used.

Occupational exposures for health care workers may occur due to contact with latex gloves, catheters, blood pressure cuffs, rubber top vials, tourniquets, IV injection ports, IV tubing, enema tips, anesthesia masks, feeding tubes, stethoscopes, dressings, bandages and numerous other health care and home care products. An estimated eight to 12 per cent of health care workers (US) are latex sensitive, according to data provided by the

Canadian Centre for Occupational Health and Safety.<sup>1</sup>

### Susceptibility

Individuals with a history of multiple surgical interventions, atopy, and spina bifida seem to be more frequently affected than the general population. The link between spina bifida and susceptibility to latex allergy has not yet been explained, although one hypothesis is that intensive medical procedures early in life may be responsible. Hydrocephalus and congenital urological abnormalities as well as cerebral palsy and Dandy-Walker syndrome, and all conditions that result in aggressive and extensive medical intervention in the early days of life, have also seen higher rates of latex allergy.<sup>2</sup>

Some people who have allergies to certain foods, including bananas, kiwi fruit, avocado, chestnuts, apples, carrots, celery, tomatoes, papaya, peaches, potatoes, melons, walnuts and peanuts may also develop a reaction to latex.

It has been estimated that natural rubber latex is a component of more than 40,000 everyday consumer products. These include erasers, glues, pens and crayons, plants such as rubber trees and poinsettia, elastic on socks, carpet backing, and so on.

### Health Effects

Symptoms of an allergic reaction to natural rubber latex may include dry, itchy areas on the skin at the site of contact (irritant contact dermatitis), rashes and skin blisters spreading away from the area in contact

<sup>1</sup> Canadian Centre for Occupational Health and Safety (CCOHS), Hamilton, ON [www.ccohs.ca](http://www.ccohs.ca).

<sup>2</sup> Spina bifida and Hydrocephalus Association of Canada. Latex allergies: Questions and answers. Winnipeg, Manitoba, 2000.

with the allergen (allergic contact dermatitis), swelling, cough, asthma and anaphylaxis (circulatory collapse).

Immediate hypersensitivity may occur, with respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat and asthmatic symptoms, including cough, wheezing, shortness of breath, chest tightness, and possibly swelling of the face, lips and airway.<sup>3</sup>

## Hazard Recognition

In addition to obvious sources of latex exposure (latex gloves, for example), the employer, supervisors, the Joint Health and Safety Committee (JHSC) or Health and Safety Representative (HSR) (for workplaces with five to 19 workers), and their partners in prevention need to maintain a high level of suspicion about all products coming into the facility. Less obvious sources of latex exposure may be the rubber grip on pens, the membrane on injectable medication vials, elastic on patient garments or linens such as fitted sheets.

## Hazard Control

As with all hazards in the workplace, employers are bound under the *Occupational Health and Safety Act* General Duty Clause 25(2) (h) to "take every precaution reasonable in the circumstances for the protection of a worker."<sup>4</sup> For workplaces covered by the Health Care and Residential Facilities Regulation, the employer must consult the JHSC or HSR in developing, establishing and putting into effect measures, procedures and training for the health and safety of workers. An occupational health and safety policy with a two-pronged

approach is recommended. Action should be aimed at both preventing sensitization by minimizing the use of products that contain latex, and protecting workers who already have a latex allergy. The JHSC/HSR involvement in reducing the presence of latex in the workplace is encouraged.

## Elimination/Substitution

Products containing latex should be eliminated from workplaces where there is a highly-sensitized population, such as health care settings. Complete elimination may not be possible. Specialty products, for example, may have only one source of supply. Patients and/or visitors may unknowingly bring latex-containing products into the environment.

Purchasing departments as well as internal and external communications departments need to work closely with the JHSC/HSR for effective recognition and hazard control.

If latex gloves are required, they must be powder-free low protein gloves. This substantially reduces the inhalation hazard, as the proteins are often carried on the dust of the glove powders. Other types of gloves such as nitrile sometimes contain a small percentage of natural rubber latex, so these must also be powder-free.

## Engineering

Air supply may need to be isolated to prevent exposure to airborne latex-contaminated air. Extra filtration may be needed to reduce dust.

Consider whether it is possible or practical to place a barrier between the latex-containing product and the user.

## Administrative

When available, purchase latex-free equipment and products. Policies and

<sup>3</sup> CCOHS

<http://www.ccohs.ca/oshanswers/diseases/latex.html/>

<sup>4</sup> Ontario *Occupational Health and Safety Act* RSO 1990. c. 0.1, 25(2)(h)

procedures around hazard and incident reporting, housekeeping, accommodation requests and a robust education program for all staff is critical to success.

## **Personal protective equipment**

For the worker with a latex allergy, this may include specific types of gloves, respirator, eye protection, gown and shoe covers, particularly when accessing hazardous areas.

## **Work practice**

Glove use, like other personal protective equipment management programs, requires education. All users should be familiar with the types of gloves and the appropriate use of each type, as well as hazard reduction by way of hand washing.

## **Steps for the JHSC/HSR**

1. Maintain vigilance around sources of latex exposure and identify products that may contain latex (e.g. during workplace inspections). Any product with a soft rubber or pliable component may present a latex hazard. While some, such as latex gloves, are obvious, others may be more difficult to detect or recognize. One example is the "comfort grip" on many ball point pens. Remember that manufactured and consumer goods do not have Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS) literature that could help with recognizing the presence of latex. Make written recommendations to the employer to work with the purchasing agent or department to purchase only latex-free goods whenever possible.
2. Ensure the employer has clearly labeled all latex products that are in use. When non-latex replacements are not available, equipment and products must

be clearly labeled "contains latex" or "may contain latex" to protect both workers and clients. Make written recommendations to the employer when latex products are not clearly labeled.

3. Make written recommendations to the employer to reduce the generation of dust when latex-containing products are in use. If dust generation is expected with the use of a product (for example, powdered latex gloves), the latex proteins can become airborne on the dust particles and cause an inhalation risk. Powder residue needs to be completely removed from the environment and HVAC system through enhanced housekeeping methods. Complete elimination of powdered gloves is the better option.

## **Worker Accommodation**

In the event that a worker recognizes that he or she has an allergy, it may be possible to provide an accommodation, which will keep the worker safe while allowing him or her to continue working.

The degree of limitations and the accommodation required will not be the same for all latex-allergic workers. When determining reasonable accommodation, consider:

1. What are the worker's limitations?
2. What is the effect of these limitations on the employee and on the job performance?
3. What specific jobs, tasks or products are problematic?
4. What is available to eliminate or reduce these problems?

## Examples of Accommodation

Each of these has been used in particular situations to accommodate one or more latex-allergic worker(s) in health care settings in Ontario:

1. All workers in unit with latex-allergic worker wear non-latex unpowdered gloves.
2. All latex products are removed from the unit.
3. Agreement that latex-allergic worker will not float off unit, which has been confirmed latex-free.
4. Latex allergic worker does not physically receive transferred patients.
5. Entrance to worker's unit is posted as "latex-free."
6. Enhanced housekeeping – carpet and ventilation system cleaned.
7. Auxiliary services (housekeeping, laundry, dietary) use non-latex gloves.
8. Styrofoam cups removed from meal trays.
9. For multiple sensitivities, worker is excused from tasks requiring the wearing of gloves.
10. No balloons in hospital.
11. No latex gloves allowed in food prep area of cafeteria.
12. No pencils with erasers.
13. Staff educated on latex allergy.

In many of the above cited examples, more than one staff member required accommodation and more than one unit or department was affected.<sup>5</sup>

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<sup>5</sup> Methods of accommodating latex-allergic staff at 10 Ontario hospitals. Source unknown, provided by ONA, May 26, 2003.

## Other Accommodation Ideas

1. Introduce a latex-safe policy and establish guidelines to manage latex-allergic individuals. This could also include a policy to screen non-medical products brought into the workplace to confirm they do not contain latex.
2. Implement good work and housekeeping practices to remove latex-containing dust from the workplace, including avoiding contact with eyes and face, hand-washing after glove removal and using HEPA vacuums to clean up dust.<sup>6</sup>
3. Purchase latex-free products such as tourniquets and blood pressure cuffs.
4. Create a centralized process for purchasing all medical supplies.
5. Remove all sterile latex surgical gloves from inventory.

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<sup>6</sup> (OH&S Newsletter – April 2011)