Preventing and managing exposure to latex allergens
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Background

Latex-containing products can cause life-threatening allergic reactions. Many hospital products, including those in the pharmacy, contain latex. While it can be difficult to create a 100% latex-free environment, it is important to create a latex-safe environment for patients and employees who have a history of latex allergy.

For more background information, see CSHP’s “Latex Allergy Primer.”

Best practices

As healthcare professionals, it is our responsibility to protect latex-sensitive and latex-allergic patients and employees. The pharmacy must ensure that special procedures are in place to allow the preparation of latex-safe products.

When caring for patients with latex allergy, it is best practice to assess the risks and benefits of any potential latex exposure. We should then have a suitable monitoring and rescue treatment plan in place so that we are prepared in the event of an allergic reaction.

Healthcare workers should be vigilant about providing latex-safe environments for patients with known hypersensitivities. It is best practice to identify people at risk of reactions to latex-containing products, so we can take precautions to avoid exposure. We must confirm whether a product contains latex before exposing a latex-sensitive person to it.

To ensure products are not contaminated, maintain vigilance while preparing latex-safe medications (e.g., use latex-safe garb, practice good hand hygiene, etc.). Pay particular attention to labelling: improper labelling of products can increase the risk of a latex-allergic patient coming into contact with latex-containing or contaminated products.

Avoid the use of powdered latex gloves, in particular the donning, doffing, and use of powdered gloves produces aerosolized allergens which can be inhaled or land on skin, clothing, and work surfaces.
Organization and staff responsibilities

To maintain latex-safe environments, all levels of an organization need to work together to create effective procedures. The following section outlines our recommended actions for organizations and staff.

Organization responsibilities

• Assign an interdisciplinary committee to be responsible for creating and updating latex policies and procedures\textsuperscript{1,9,12} to prevent, diagnose, and treat latex allergy.\textsuperscript{6} The committee should develop educational materials for staff\textsuperscript{1,4} and patients.\textsuperscript{4} They should also review and evaluate adverse reactions to latex-containing products that happen in the hospital. The committee can then make recommendations to prevent future reactions.\textsuperscript{4}
• Develop a screening tool to help healthcare workers determine a patient’s risk of latex sensitization and allergy.
• Design educational materials to teach staff how to recognize signs and symptoms of the three main adverse reactions to latex-containing products.\textsuperscript{8}
• Document the staff’s completion of latex-safe training, and keep track of the staff’s maintenance of competence.
• Find out, record, and remain aware of the latex sensitivity status of employees and patients.

The hospital’s policies and procedures should address the following topics:
  • personnel requirements
  • identification and documentation of latex allergy/sensitivity (in patients and healthcare workers)
  • care of patients who are latex allergic\textsuperscript{1,8} and those at risk of allergic reaction to latex
  • accommodations for employees with latex sensitivities\textsuperscript{12}
  • environmental controls and other resources to minimize unnecessary exposure to high-antigen latex products\textsuperscript{8,9}
  • resources to identify items that contain latex
  • purchasing decisions involving latex-free products\textsuperscript{1}
  • provision of latex-safe products
  • availability of products and devices used to produce latex-safe products
  • labelling, storage, and handling of latex-safe products, including the final product
  • continual education of staff in managing latex allergy\textsuperscript{1,8}
  • documentation of product preparation

Staff responsibilities

• Identify and document patients at high risk of latex sensitivity or allergy.
• Take appropriate action to prevent exposing latex-sensitive or latex-allergic patients.
• Report if you yourself have sensitivities to latex allergens.
Staff responsibilities, continued

- Recognize and report signs and symptoms of reactions to latex-containing products.
- Prepare latex-safe medications in a special area used only for that purpose.
- Label latex-safe medications appropriately.
- Practice good, frequent hand hygiene and encourage others to do the same.

Identifying at-risk persons

Preventing adverse reactions to latex begins with identifying persons at risk. The diagnosis of latex allergy is based on taking a thorough clinical history, and conducting laboratory testing, challenge tests, and skin tests.\(^\text{10,13}\)

To identify individuals who are at risk of latex hypersensitivities, or allergy, use a screening questionnaire. Several screening tools or questionnaires exist to help practitioners in eliciting a thorough patient history. (See “Learn more” section.) This screening questionnaire should systematically capture sufficient information to assess whether a person is sensitized to latex or belongs to a high-risk group. Keep in mind that those at risk may be currently asymptomatic.\(^\text{12,13}\)

The clinical history gleaned from the questionnaire should include notes about the presence of any risk factors\(^\text{8,10}\) that might predispose a person to latex allergy. These risk factors include:

- exposure to latex in their employment or home situation
- food allergy
- spina bifida
- multiple surgical procedures during childhood
- myelodysplasia
- congenital urogenital anomalies
- atopic conditions
- history of multiple urinary catheterizations
- history of multiple allergies
- results of any previous allergy tests

Refer to the Latex Allergy Primer for more information about the risk factors.

Document the results of the assessment and capture this information in all relevant health records. Take appropriate action if a person is at high risk of latex allergy or sensitivity.

Individuals with a latex allergy should inform healthcare workers of their latex allergy and type of reaction. Their health records should also include information about the latex allergy. For those with latex allergy, wearing a medical-alert device at all times is advisable. If the person has a history of systemic symptoms, they should carry self-injectable epinephrine.\(^\text{14}\)

Due to our increased exposure, healthcare workers are at greater risk of latex sensitivity and allergy. Staff should be encouraged to report any signs or symptoms of latex sensitization (e.g., non-allergic contact dermatitis) or allergy.
Identifying latex-safe products

To protect individuals at high risk for latex sensitivity or allergy, we must be aware of products that contain latex. This is not necessarily straightforward, so healthcare teams should take the following actions:

- Educate yourself and your team about sources of latex.\(^4\)
- Identify the latex content of all materials used during medication preparation and administration.
- If it is unclear whether a product contains latex, contact the manufacturer.\(^1\)
- When preparing medication for a patient at high risk of latex sensitization or for a patient who is latex allergic, we must confirm the latex content of all products used during medication preparation and administration (e.g., syringes and vial stoppers).\(^1\)
- Do not keep a list of latex-safe drugs. Research suggests that this process is unreliable.\(^7\) The latex content of many drugs can change without notice for a variety of reasons, such as changes in manufacturing processes.
- Ask your group purchasing organization or purchasing department to require bidding manufacturers to supply information on the latex-content of their products. This will help encourage manufacturers to create latex-safe products.

Which gloves should I wear?

Use latex gloves only when it makes sense to do so under universal precautions. Do not use latex gloves for low-risk activities. If you are sensitive to latex or caring for someone who is, choose non-latex gloves. When latex gloves must be used, they should be low-allergen and nonpowdered, and sterile when warranted.\(^10\)

Preparing and administering latex-safe medications

Keeping products latex-safe

- Ideally, the hospital pharmacy should have a latex-safe room to prepare latex-safe products. This room should be used for compounding, reconstituting, and repackaging activities. In these spaces and whenever handling latex-safe products, wear latex-safe garb (e.g., gloves, hair coverings).
- The latex-safe area must be regularly cleaned, including the floors and other surfaces.
- Before making latex-safe products, empty and clean the primary clean air device (primary engineering control) for preparation of sterile products.\(^15\)
- Before compounding latex-safe products, run the primary clean air device (primary engineering control) as per the manufacturer’s instructions. Alternatively, designate one or more devices as latex-safe work environments.\(^15\)
- Primary packaging (e.g., parenteral bags, bottles, vials, and syringes) should be latex-safe.\(^10\) Use secondary packaging (e.g., latex-safe sealable bags) to prevent exposure to latex in the environment.\(^15\)
- Label latex-safe products appropriately.
Administering medications in IV bags with latex ports

- Label medication ports that contain latex to prevent access, e.g., “contains dry natural rubber.” A latex-free stopcock may be a suitable option to access the medication.

Latex vial stoppers and the latex-allergic patient

If you are caring for a patient with a latex sensitivity or allergy, it is always best practice to obtain a product supplied in ampoules or vials, without latex stoppers. Try to use vials with synthetic rubber stoppers.

If you cannot avoid using vials with latex-containing stoppers, extra precautions are necessary:

- Do not remove the vial stopper before you withdraw the medication.
  - Research shows that this technique does not decrease latex-protein contamination of solutions, when compared with the single-stick method (see below). Removing the vial stopper also increases the risk of microbial contamination.
- Use the “single-stick” (puncture) method. If you must do multiple punctures, use a dispensing pin.
- Combine the “single-stick” method with observation
  - Puncture the vial of medication only once, regardless of the vial closure formulation.
  - Withdraw the medication into a non-latex syringe.
  - Observe the patient for signs of allergic reaction for 30 minutes to 2 hours after the medication is administered.
- If the medication vial stopper contains latex, always document this. Also make note in the pharmacy production record if contamination with latex might have occurred.

Alert those involved in medication administration and patient monitoring if a medication’s vial contained latex. Stock crash-carts with latex-safe products (for patients that are latex allergic).
Learn more

Practice Resources from the American Academy of Allergy, Asthma, and Immunology: [https://www.aaaai.org/practice-resources](https://www.aaaai.org/practice-resources)

Guidelines on the “Preparation of Parenteral Hazardous Drugs for Latex Allergy Patients” from BC Cancer Agency: [http://www.bccancer.bc.ca/pharmacy-site/Documents/5aModule4Checklists.pdf](http://www.bccancer.bc.ca/pharmacy-site/Documents/5aModule4Checklists.pdf)


Latex Allergies resources from the National Institute for Occupational Safety and Health (NIOSH), run by the Centers for Disease Control and Prevention (CDC): [https://bit.ly/2H2z8fj](https://bit.ly/2H2z8fj)

Screening questionnaires:

- Natural Rubber Latex Allergy Patient Screening Questionnaire: [https://www.anaphylaxis.org.uk/wp-content/uploads/2016/02/Patient-Screening_newEAFC-NEW.pdf](https://www.anaphylaxis.org.uk/wp-content/uploads/2016/02/Patient-Screening_newEAFC-NEW.pdf)

Literature cited


Acknowledgements

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