



SGNA Standards of Practice

LATEX SENSITIVITY AND ALLERGIC REACTIONS IN THE GASTROENTEROLOGY SETTING

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Table of Contents

Preface	2
Definition of Terms	2
Summary	3
References	3
Recommended Reading	4

Preface

Allergy to natural rubber latex is a clinical condition that appeared after the introduction of universal precautions to protect healthcare personnel (Gawchik, 2011). As a result, the U.S. Food and Drug Administration (FDA) made recommendations for glove powder and protein limits and stated that high-quality non-powdered, low-protein gloves should be the standard (American Association of Nurse Anesthetists [AANA], 2018). In 2017, the FDA banned the use of powdered medical gloves, as well as absorbable powder for lubricating sterile gloves.

With the reduction of latex proteins in gloves and the use of powder-free gloves, the incidence of latex allergy has decreased significantly in the United States. However, the problem persists worldwide due to continued use of powdered latex gloves (Gawchik, 2011). The purpose of this document is to maintain awareness of the potential dangers of latex allergies.

Definition of Terms

For the purpose of this document, the Society of Gastroenterology Nurses and Associates (SGNA) has adopted the following definitions:

- *Allergy* refers to a state of hypersensitivity induced by exposure to a particular antigen (allergen) resulting in harmful immunologic reactions on subsequent exposures.
- *Anaphylaxis* is an acute, potentially life-threatening hypersensitivity reaction involving the release of mediators from mast cells, basophils, and recruited inflammatory cells. It is defined by a number of signs and symptoms, alone or in combination, which occur within minutes or up to a few hours after exposure to a provoking agent (World Allergy Organization, 2019).
- *Latex* refers to natural rubber latex and includes products made from dry natural rubber (DNR) (United States Department of Labor, Occupational Safety and Health Administration [OSHA], 2008).
- *Sensitization* is the process of developing an immunologic reaction to an antigen (OSHA, 2008).
- *Sensitivity* refers to a state of altered reactivity that develops after sensitization.

I. GENERAL PRINCIPLES

A. Routes of Exposure

Personnel and patients are at risk of developing latex sensitivity. Major risk factors include length and frequency of exposure and exposure at an early age (Niggermann, 2010; Pfenninger & Fowler, 2019; Pollart, Warniment, & Mori, 2009). The routes of exposure are (Al-Shaikh & Stacey, 2013; Gawchik, 2011):

1. Direct contact (e.g., gloves, face masks, and blood pressure cuffs);
2. Airborne sources that affect mucous membranes of the eyes, nose, trachea, bronchi, and oral cavity;
3. Particles swallowed after entering the nose or mouth; and
4. Direct contact between latex gloves and patients' internal tissues during surgical procedures.

When latex is formed using the DNR process for use in intravenous injection ports and vial stoppers, a concern has been raised regarding possible contamination of medication by needle entry into the rubber or in contact during storage/vigorous shaking of the vial. The American Society of Anesthesiologists (ASA) and the American Association of Nurse Anesthetists (AANA) have both published recommendations that DNR stoppers in pharmaceutical vials be removed prior to drawing up the medication for at-risk patients (Association of Surgical Technologists, 2018). Regulatory bodies have not accepted these recommendations at this time.

B. Three Types of Reactions to Latex

1. Irritant Contact Dermatitis (Contact Dermatitis)

The most common reaction to latex products is irritant contact dermatitis. This is exhibited by the development of dry, itchy, irritated areas on the skin (usually the hands) and is not a true allergy (Dickey, 2014; National Institute for Occupational Safety and Health [NIOSH], 2012; OSHA, 2008). It may occur on the first exposure and is not life-threatening (Gawchik, 2011).

2. Allergic Contact Dermatitis (Delayed Hypersensitivity or Type IV)

Allergic contact dermatitis or delayed hypersensitivity (Type IV) results from exposure to chemicals added during manufacturing. Erythema, pruritus, and blisters usually occur within 24–72 hours after contact (Gawchik, 2011; NIOSH, 2012; OSHA, 2008).

3. Latex Allergy (Immediate Hypersensitivity or Type I)

True latex allergy (Type I) is more serious than either of the two preceding conditions and should be further

evaluated, as it could lead to anaphylactic reactions. It is unknown how much exposure to the proteins in latex is needed to cause sensitization or progression of symptoms. Reactions can occur within seconds to minutes of exposure to the allergen (OSHA, 2008). Mild reactions involve skin redness, hives, or itching. Serious symptoms include runny nose, sneezing, itchy eyes, scratchy throat, wheezing, coughing, and difficulty breathing (Al-Shaikh & Stacey, 2013; Kumar, 2012; NIOSH, 2012; OSHA, 2008). Progression to anaphylactic shock is rare and life-threatening but is seldom the first sign of sensitivity (NIOSH, 2012).

C. High-Risk Individuals

Individuals who are at a higher risk of developing a latex allergy include those with (Al-Shaikh & Stacey, 2013; Gawchik, 2011; Kumar, 2012; Nigerman, 2010):

1. Prolonged or ongoing exposure to latex;
2. Genetic predisposition to hypersensitivity or allergic reaction (atopy);
3. Allergies to certain foods, especially avocado, chestnuts, kiwi fruit, and bananas;
4. Spina bifida;
5. History of multiple surgical procedures; and
6. History of anaphylaxis of unknown etiology, especially during past surgeries, hospitalizations, or dental visits (AANA, 2018).

D. Assessment and Documentation

There is no standardized testing protocol for diagnosing latex allergy (Pollart et al., 2009). Medical diagnosis is based on the correlation of symptoms with latex exposure (Gawchik, 2011; Pfenninger & Fowler, 2019). Therefore, it is essential to take a thorough history to be aware of potential or actual latex allergy. The history should include evidence of seasonal allergic rhinitis, asthma, eczema and food allergy, occupation, surgeries, and hidden reactions such as swelling of lip or tongue after blowing up a balloon (Gawchik, 2011; Pfenninger & Fowler, 2019).

II. RECOMMENDATIONS

The following recommendations for preventing latex allergy in the workplace are based on current knowledge and a commonsense approach to minimizing latex-related health problems (Kumar, 2012; NIOSH, 2012; OSHA, 2008):

1. Assess patients for possible latex sensitivity/allergy.
2. Educate personnel about latex sensitivity/allergy including incidence, risk factors, and identification.
3. Develop policies and procedures for care of patients with latex sensitivity/allergy.

4. Reduce latex exposure by using latex-free products, when available.
5. Be aware of products that contain latex and whether latex-free alternatives are available (e.g., EUS balloons, extraction balloons for biliary stones, and variceal bands).
6. Mitigate the risk of latex allergy incidents by optimizing environmental factors (e.g., assessing air pressure, determining airflow patterns, and reviewing environmental cleaning and disinfection practices that stimulate latex exposure) (Mendez et al., 2018).
7. Facilities should have an ongoing, active database system that identifies all latex products and their substitutes. Cases of documented latex-related reactions should be recorded (AANA, 2018).
8. Personnel with confirmed latex allergy must use non-latex gloves and avoid contact with latex and areas where latex products are used. Personnel have the responsibility to notify the team of their latex allergy.

Summary

The SGNA supports recommendations to reduce latex exposure by using latex-free products when available. The SGNA also supports further research in reducing latex allergies in the gastroenterology setting.

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