



Protective Glove Standard: Selection and Use

In many University workplaces, exposure to chemicals, infectious agents, sharp objects, extreme temperatures and other hazards can create a potential for injury to the hand. Wherever practicable, these hazards should be eliminated or reduced through the use of engineering and/or administrative controls. We can protect against those hazards that continue to exist by using appropriate hand protection for the job.

SCOPE:

Any worker who may be exposed to hand injury from an operation or process conducted within a University of Toronto workplace.

Note: In this standard, "worker" includes faculty, staff, students, and visitors.

RESPONSIBILITIES:

Principal investigators / supervisors and all others in authority shall:

- Identify the hazards in the workplace requiring the use of hand protection;
- Determine (using this standard or in conjunction with the Office of Environmental Health and Safety) the type of hand protection required for the specific hand hazards;
- Provide employees with appropriate protective gloves;
- Ensure that workers are informed in the proper use, care and maintenance of protective gloves;
- Ensure that workers wear appropriate protective gloves at all times in areas where hand hazards exist.

Workers shall:

- Wear appropriate hand protection at all times in hand hazard areas; and
- Use, care and maintain protective gloves appropriately.

PERSONAL PROTECTIVE GLOVES:

Appropriate protective gloves must be worn in all situations where the hands are potentially exposed to workplace hazards such as chemicals, infectious agents, cuts, lacerations, abrasions, punctures, burns and harmful temperature extremes. Glove selection must include an initial workplace assessment to identify the specific hazards relating to the types of chemicals or other hazardous materials to be used, the specific tasks to be performed, and the conditions and duration of such work.

Appropriate glove protection must protect against the specific hazards presented, and provide a comfortable and secure fit. The performance characteristics of a particular glove and its ability to protect against the specific hazards encountered are based on a number of factors, including the type of glove material, the manufacturing process, and its thickness, design and size. Glove manufacturers performance data should always be consulted for physical and chemical resistance properties of their particular glove products.

[Appendix A](#) outlines recommended protective glove materials for protection against specific types of hazards.

Chemical Resistant Gloves

Chemical resistant gloves which provide an effective barrier against the specific chemicals used must be worn whenever hands are potentially exposed to chemicals. An appropriate chemical resistant glove must demonstrate no significant degradation, a high breakthrough time and a low permeation rate upon contact with the chemicals used. Chemical permeation through an inappropriate glove can result in significant worker exposure and serious health effects, particularly when using highly toxic chemicals which are readily absorbed into the bloodstream via the skin.

[Appendix B](#), "**Guide to Selection of a Chemical Resistant Glove**," is provided to assist in the selection of an appropriate chemical resistant glove material. It describes the type of information that is available to indicate the type and degree of chemical resistance a glove material can provide. It also provides a summary of general chemical resistance and physical properties of common glove materials. Appendix B is to be used in conjunction with material safety data sheets for the specific chemicals used, as well as glove manufacturers' performance data regarding degradation, permeation rate and breakthrough time for their individual glove products.

Disposable gloves are usually made of lightweight plastic or rubber materials, and offer greater sensitivity and dexterity to the user. Users should be aware of the limitations of such gloves in protecting against chemical or physical hazards. Disposable gloves are generally intended to guard against mild chemicals or other materials, and provide little or no protection against many chemicals. Although the need for high dexterity and low costs are often major factors in the selection of gloves, the potential for permeation of toxic materials through the glove material must be of prime consideration. Disposable gloves should be replaced frequently, and should never be reused.

Inspection and care of chemical resistant gloves should be routinely conducted. Chemical resistant gloves will break down after repeated chemical exposures, and should be inspected each time they are reused. Reusable gloves should be thoroughly rinsed and allowed to air dry. Gloves should be replaced on a regular and frequent basis. They should be replaced immediately upon signs of degradation, and particularly after contact with toxic chemicals. Once a chemical has been absorbed onto the glove material, the chemical can continue to diffuse through the material even after the surface has been washed.

Hand washing and other personal hygiene practices are important measures for preventing or reducing contact with chemical contaminants. Current research tends to indicate that **barrier creams and lotions** offer little protection against chemical hazards, and can increase the likelihood of contact dermatitis. Such products often contain mineral oil lubricants which can weaken glove materials such as natural rubber latex.

LATEX ALLERGIES:

The widespread use of latex gloves in and out of the workplace over the past decade has resulted in a corresponding increase in the reporting of irritant and allergic reactions to the glove material. Reactions may either be due to exposure to the natural latex proteins or to the chemical additives added to the latex during the manufacturing process. Allergic reactions due to the natural latex proteins, in particular, can present a serious health risk to a significant number of workers who need to wear glove protection. Symptoms can range from local skin reactions to more serious health effects such as rhinitis, conjunctivitis, asthma and rarely, life-threatening anaphylactic shock. As a result, it is strongly recommended that departments implement a latex management program to minimize the risk of latex sensitization in workers, and to address latex-sensitive workers.

[Appendix C](#) presents a guideline for the safe use of latex in the workplace. In addition to providing information on latex allergic reactions and known risk factors, it outlines measures to be taken to

eliminate or minimize latex exposures in the workplace, and to address the issue of latex-sensitive workers.

Appendix A		
CLASSIFICATION OF HAZARDS AND RECOMMENDED GLOVE PROTECTION		
NATURE OF HAZARD	DEGREE OF HAZARD	PROTECTIVE MATERIAL
1) Abrasion	Severe	Reinforced heavy rubber, staple-reinforced heavy leather
	Moderate	Rubber, plastic, leather, polyester, nylon, cotton
2) Sharp Edges	Severe	Metal mesh, staple-reinforced heavy leather, Kevlar-steel mesh
	Moderate	Leather, terry cloth (Aramid fibre)
	Mild with Delicate Work	Lightweight leather, polyester, nylon, cotton
3) Chemicals and Fluids	Refer to Appendix B, product material safety data sheet (MSDS), or glove manufacturer data	Dependant on specific chemical hazards: Natural rubber, neoprene, butyl rubber, Viton, polyvinyl chloride, polyvinyl alcohol, etc.
4) Cold	-	Leather, insulated plastic or rubber, wool, cotton, cold resistant specialty fabrics (e.g. Zetex). Loose fitting gloves for liquid nitrogen or carbon dioxide.
5) Heat	High temperatures (> 350°C)	Heat-resistant specialty fabrics
	Medium high temperatures (up to 350°C)	Nomex, Kevlar, Zetex, heat-resistant leather with linings
	Warm temperatures (up to 200°C)	Nomex, Kevlar, Zetex, heat-resistant leather, terry cloth (Aramid fiber)
	Less warm temperatures (up to 100°C)	Chrome-tanned leather, terry cloth
6) Electricity	-	Rubber-insulating gloves and mitts tested to appropriate voltage (CSA Standard Z259.4-M1979) with leather outer glove
7) General Duty	Low risk duties	Cotton, terry cloth, leather, rubber, plastic
8) Product	-	Thin-film plastic, lightweight leather,

Contamination		cotton, polyester, nylon
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** (Adapted from Safety Infogram produced by the Canadian Centre for Occupational Health and Safety)*

Appendix B
GUIDE TO SELECTION OF A CHEMICAL RESISTANT GLOVE

A. INTRODUCTION

An appropriate chemical protective glove is one which will provide an effective barrier between the chemicals being used and the hand. Proper care must be taken when selecting a glove for use with chemicals, particularly with highly toxic chemicals which are readily absorbed through the skin and into the blood stream. An inappropriate choice of glove material can result in direct exposure to potentially harmful chemicals. This guideline is intended to help users select the most appropriate chemical resistant glove for a given application.

B. GLOVE LIMITATIONS

No single glove material will protect against all chemicals.

Different glove materials interact differently with different types of chemicals. It is therefore important to match the right glove material to the type of chemical(s) being used. Natural rubber latex gloves may be suitable for dilute aqueous solutions; however, oils, greases and many organic solvents will easily permeate the latex material. Nitrile gloves may be used against oils and greases but are generally unsatisfactory for use against aromatic or halogenated solvents.

No glove material is totally impermeable.

Glove materials only temporarily resist chemical breakthrough and the chemical will permeate through the glove material over time. Even the best chemically resistant glove will break down after repeated chemical exposures.

Glove performance can vary with product and manufacturer.

Chemical resistance of a particular type of glove material (e.g. nitrile) can vary significantly from product to product, and from manufacturer to manufacturer. The degree of protection will depend on factors related to the specific glove itself, including its chemical make-up, thickness, design and method of construction. It is important to compare performance data from individual manufacturers.

C. GLOVE SELECTION PROCESS

The steps involved in selecting the best protective glove for a specific application are summarized as follows:

1. Assess the hazards related to the specific chemical(s) to be used, the conditions of use, and the tasks to be conducted. Chemical hazards, in terms of the degree of toxicity, the types of health effects (local or systemic), and the severity of the effects must be considered. The greater the toxicity and potential hazard to the worker, the more care is required in selecting the best glove for the job. The tasks being undertaken, including duration, frequency and degree of chemical exposure, degree of dexterity required, and physical stresses which will be applied must also be considered.
2. Select a glove material which has the required chemical resistance properties for the specific chemicals to be used. In terms of selection criteria, the best protective glove is one which demonstrates no significant degradation upon contact with the specific chemical(s), and has an appropriately high breakthrough time and a low permeation rate under the conditions of use (see Section D).
3. Consider factors associated with actual conditions of use that may affect performance of the glove for the final selection (see Section E). Additional testing under the conditions of use may need to be conducted.

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D. CHEMICAL RESISTANCE PROPERTIES OF GLOVES

The selection of a glove material which provides the best protection against a particular chemical is based mainly on its chemical resistance performance upon contact with the chemical. Chemical resistance performance of a glove is generally defined in terms of its **degradation** and **permeation** properties.

Degradation is the physical deterioration of a glove material due to contact with a chemical. This may cause the glove to soften, swell, shrink, stretch, dissolve, or to become hard and brittle. Gloves having a good to excellent rating against degradation should be selected.

Permeation is the process by which a specific chemical diffuses through a glove material at the molecular level, from the outside to the inside surface of the glove material. Chemical permeation frequently occurs with no obvious signs of physical degradation of the glove material. Permeation testing of glove products are conducted in accordance with standards of the American Society for Testing and Materials (ASTM). Permeation testing provides two important pieces of data for glove selection - **breakthrough time** and **permeation rate**.

a) **Breakthrough Time** is the time from initial chemical contact on the glove exterior to the time it is first detected on the inside surface. The breakthrough time is often the most important factor used to indicate the degree of protection a particular glove material will provide, particularly with highly toxic chemicals. The breakthrough time is usually expressed in minutes or hours. A typical test runs for up to 8 hours. If there is no measurable breakthrough after 8 hours, the result is reported as a breakthrough time of >480 minutes or >8 hours. The glove material with the highest breakthrough time should be selected. This generally means selecting a glove with a breakthrough time of eight hours or greater; however, this level of resistance is not always available. Users must ensure that the expected duration for handling the particular chemical is well within the breakthrough time of the selected glove material. Otherwise, more frequent changes of the gloves are warranted.

b) **Permeation Rate** is the rate at which a chemical passes through the glove material once it has broken through. The permeation rate is generally expressed in terms of the amount of a chemical which passes through a given area of clothing per unit time (micrograms per square centimetre per minute). Some manufacturers provide descriptive ratings from poor to excellent.

The best protective glove is one which demonstrates no significant deterioration upon contact with the specific chemical, and has an acceptably high breakthrough time and a low permeation rate under the conditions of use. For each chemical used, always consult the glove manufacturer's chemical resistance charts for degradation and permeation test results on individual glove products.

E. OTHER CONSIDERATIONS

Chemical resistance data are obtained under standard test conditions, and should be used to screen for the best glove candidates. Many factors can affect final glove performance under actual work conditions, and must be considered when selecting a chemical resistant glove:

Degree of Exposure

Glove performance can decrease significantly as chemical exposure increases. Increase in chemical concentration or direct immersion in a chemical can cause breakthrough to occur within a much shorter time period than that specified by the manufacturer.

Temperature

In general, permeation rates increase and breakthrough times decrease as temperatures increase. Standard permeation test data are obtained at room temperature (20°C to 25°C). For chemicals that are used at temperatures higher than this, there may be a significant decrease in glove performance.

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Glove Thickness

Selecting a thicker glove or double gloving may be required for adequate protection, because a thicker glove offers better chemical resistance and a significant increase in breakthrough time. As a general rule of thumb, doubling the glove thickness will quadruple the breakthrough time. When considering glove thickness, the required degree of manual dexterity and sensitivity must also be considered. Thicker gloves offer better chemical resistance, but can impair grip, manual dexterity and safety. A proper balance must be struck between the need for greater sensitivity and dexterity and an acceptable degree of chemical resistance. Disposable gloves, in particular, will offer greater dexterity but are generally intended to guard against mild chemicals and provide little or no protection against many chemicals.

Manufacturer

Because of variations in the manufacturing process, the same glove material from different manufacturers can have significantly different permeation properties. A particular manufacturer's test data should always be consulted for a specific glove product.

Chemical Mixtures

Permeation tests are conducted using pure chemicals. Mixtures of chemicals can significantly change the permeation rates and physical properties of a given glove material. In general, for mixtures of chemicals, a glove which demonstrates the greatest resistance against the most permeable chemical component should be chosen. A chemical mixture, however, can have a significantly higher permeation rate than any of its components. Users may need to conduct further evaluation of glove performance for their specific chemical mixtures under the conditions of use, particularly with highly toxic materials.

Physical Resistance

The physical properties of a particular glove material and its likelihood for puncture, tearing, abrasion or snagging under conditions of use must always be considered when selecting a glove. Penetration of chemicals through a tear or hole in a glove will lead to much higher exposures than by molecular permeation alone. It may sometimes be necessary to wear two different types of gloves --- one for its chemical resistance properties, and the other for its physical resistance properties.

F. SOURCES OF INFORMATION

A summary table of general chemical resistance and physical properties of common glove materials is provided in Section G. Users should consult the material safety data sheet of the specific chemical for the recommended chemical resistant glove. Further chemical resistance data can be obtained from individual glove manufacturers for their own glove products. The Office of Environmental Health and Safety (EHS) may also be contacted for assistance in glove selection. Links to web sites providing chemical resistance information are listed at the EHS web site (<http://www.utoronto.ca/safety>), including:

- **National Institute for Safety and Health (NIOSH) Recommendations for Chemical Protective Clothing:** <http://www.cdc.gov/niosh/ncpc/ncpc1.html>
- **Best Gloves:** <http://www.bestglove.com>
- **Ansell Edmont Chemical Application Recommendation Guide:** <http://www.ansell-edmont.com/specware/>

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G. CHEMICAL RESISTANCE AND PHYSICAL PROPERTIES OF COMMON GLOVE MATERIALS

(Adapted from the ACGIH Guidelines for the Selection of Chemical Protective Clothing)

The following table is intended to be used only as a general guideline during glove selection. Always consult the glove manufacturer's chemical resistance and physical properties test data on specific glove products.

GLOVE MATERIAL	CHEMICAL RESISTANCE PROPERTIES		PHYSICAL PROPERTIES E: Excellent G: Good F: Fair P: Poor						
	RECOMMENDED FOR USE WITH	NOT RECOMMENDED FOR USE WITH	ABRASION RESISTANCE	CUT RESISTANCE	FLEXIBILITY	HEAT RESISTANCE	OZONE RESISTANCE	PUNCTURE RESISTANCE	TEAR RESISTANCE
Natural rubber latex	Acids, bases, alcohols, aqueous solutions.	Oils, greases, organics.	E	E	E	F	P	E	E
Butyl rubber	Aldehydes, ketones, esters, glycol ethers, polar organic solvents.	Hydrocarbons, chlorinated solvents.	F	G	G	E	E	G	G
Neoprene	Oxidizing acids, caustics, alcohols, oils, fats, aniline, phenol, glycol ethers.	Chlorinated hydrocarbons.	E	E	G	G	E	G	G
Nitrile	Oils, greases, acids, caustics, aliphatic chemicals.	Aromatics, many ketones, esters, many chlorinated solvents.	E	E	E	G	F	E	G
Polyvinyl alcohol (PVA)	Aliphatics, aromatics, chlorinated solvents, ketones (except acetone), esters, ethers.	Acids, alcohols, bases.	F	F	P	G	E	F	G
Polyvinyl chloride (PVC)	Strong acids and bases, salts, other aqueous solutions, alcohols, glycol ethers.	Aromatics, hydrocarbons, chlorinated solvents, aldehydes, ketones, nitrocompounds.	G	P	F	P	E	G	G
Fluoroelastomer (Viton®)	Aromatic and chlorinated solvents, aliphatics and alcohols.	Some ketones, esters, amines.	G	G	G	G	E	G	G
Silver Shield™ (Norfoil™, 4H™)	Wide range of solvents, acids and bases.		F	P	E	F	E	F	E

Appendix C
GUIDELINES FOR LATEX GLOVE USAGE IN THE WORKPLACE
Preventing and Managing Latex Allergies

INTRODUCTION

Latex gloves have commonly been used in the workplace for handling a wide range of biological and chemical contaminants. Over the past decade, their performance as an effective barrier in preventing the transmission of many infectious diseases has led to an increasing usage of latex gloves and other latex products both in and out of the workplace. Such usage has been accompanied by a marked increase in the reporting of allergic reactions to latex, which range from local skin reactions to more serious health effects such as rhinitis, conjunctivitis, asthma and rarely, life-threatening anaphylactic shock.

This guideline is intended to provide supervisors and workers with basic information about latex allergies and reactions, and measures for managing the use of latex gloves in the workplace. These measures are aimed at reducing the risk of latex sensitization in the workplace, as well as safely managing the latex-sensitized worker.

LATEX GLOVE COMPOSITION

Natural rubber latex is manufactured from the milky sap obtained from the rubber tree, *Hevea brasiliensis*. Naturally occurring proteins present in the latex are responsible for allergic sensitization and the range of symptoms seen with immediate generalized allergic reactions.

Several chemicals are added during processing of the latex fluid and subsequent manufacturing of the latex product for a range of desired chemical and physical properties, including accelerators (e.g. thiurams, carbamates), preservatives, plasticizers and antioxidants. These chemical additives, and not the latex proteins, are often the cause of the delayed allergic skin reactions seen with latex glove use.

Natural rubber gloves are derived from latex, and should be distinguished from synthetic rubber which are derived from petrochemicals. Latex-sensitive individuals will not react to synthetic rubber; however, chemical additives in the synthetic glove may cause allergic reactions.

TYPES OF REACTIONS

The three types of reactions which can occur in individuals who use latex gloves are summarized as follows:

- 1) **Irritant Contact Dermatitis** is a non-allergic skin rash characterized by dry, itchy, flaky skin with papules, cracks or sores, and is the most common reaction seen with glove use. Possible causes of such irritant skin reactions include sweating inside the gloves, rubbing of the glove material against the hands, or the presence of residual soaps, cleaning agents or chemicals on the skin. The symptoms can be similar in appearance to allergic contact dermatitis, and a definitive diagnosis must be made by a dermatologist. Appropriate control measures are aimed at reducing or eliminating the factor causing the irritation.

- 2) **Allergic Contact Dermatitis (Delayed Hypersensitivity, Type IV)** is an immune cell-mediated response primarily attributed to chemical additives within the glove. The skin rash which first develops typically appears 48 to 96 hours after exposure and generally involves the skin areas covered by the gloves. Over time, the skin may become dry, red, crusted and thickened. Once an individual is sensitized, even a small amount of the allergen will result in recurrence or worsening of the rash.

The chemical additives in gloves which are responsible for most cases of allergic contact dermatitis are thiurams, carbamates and benzothiazoles. A diagnosis based on history, physical examination and allergy testing must be established by a dermatologist. Control measures in the workplace include the use of gloves with low levels of residual chemicals or the use of glove liners. A change to non-latex gloves should also be considered, although chemical additives which evoke an allergic response may also be found in non-latex gloves.

- 3) Immediate Allergic Reactions (Immediate Hypersensitivity, Type I)** are caused by latex protein allergens which induce an IgE antibody-mediated immune response. The type and severity of symptoms exhibited by the latex-sensitive worker depends on the route of exposure, the amount of latex allergen present, and the degree of individual sensitivity. Symptoms generally occur within minutes of exposure to latex but can occur hours later. Local skin redness, itchiness and hives may develop 5 to 60 minutes after donning latex gloves. Exposure to airborne latex allergen may result in itchiness of the eyes, conjunctivitis, eyelid swelling, runny nose (rhinitis), shortness of breath, asthma, dizziness or tachycardia. Rarely, life-threatening anaphylactic shock in combination with generalized hives, breathing difficulties and low blood pressure can occur. Once a person is sensitized, even small amounts of the allergen can lead to a reaction. A definitive diagnosis based on history, physical examination and allergy testing should be established by a dermatologist. Control measures to eliminate or minimize exposure to latex at work and at home will need to be implemented.

INCREASE IN LATEX ALLERGY INCIDENCE

In general, the greater the overall exposure to a given allergen, the greater the likelihood that more individuals will become sensitized. The number of reports of immediate latex allergic reactions, including anaphylaxis, has been increasing over the past decade in individuals exposed to latex. Some of the reasons that have contributed to this increase include the following:

- 1) The use of latex gloves by health care and other workers has increased since the introduction of universal precautions in 1987 to prevent the spread of infectious organisms such as the hepatitis B virus and the human immunodeficiency virus (HIV) in health care settings.
- 2) The increased demand for latex gloves and the lack of accepted manufacturing standards resulted in the production of poor quality latex gloves containing high levels of residual latex protein allergens and/or chemical additives.
- 3) The use of powdered latex gloves has been identified as a major contributor to airborne latex proteins. Latex protein allergens from the glove fasten onto the glove powder. When the gloves are removed, the powder is released into the air along with the adsorbed latex proteins where they can be readily inhaled or come into contact with body membranes. Studies have shown that in work areas where only powder-free gloves are used, the levels of latex protein allergens are low or undetectable.

RISK GROUPS

Individuals with a greater likelihood of developing latex allergy include, although are not restricted to, those from the following high-risk groups:

- (a) workers who use or are exposed to latex products on a regular or frequent basis (e.g. health care workers);
- (b) atopic individuals who have a tendency towards multiple allergic conditions such as hay fever or asthma;
- (c) individuals with certain food allergies, such as avocado, banana, potato, tomato, chestnuts, and kiwi fruit;
- (d) individuals with spina bifida or those who have undergone multiple surgeries during infancy or childhood;
- (e) individuals with skin conditions (e.g. irritant or allergic contact dermatitis, eczema) where the barrier property of the skin is compromised, allowing easier absorption of latex protein allergens.

MANAGEMENT OF LATEX GLOVE USAGE IN THE WORKPLACE

The use of latex gloves in the workplace can present a significant health risk to workers who need to wear glove protection, particularly those within high-risk groups.. To prevent the development of sensitization in workers and to protect already-sensitized workers, department heads and supervisors are strongly encouraged to take appropriate measures to eliminate or minimize latex exposure in the workplace.

Supervisors should incorporate the following measures within their workplaces:

- 1) Latex glove usage in the workplace should be reviewed to determine whether latex gloves are appropriate for the specific risks encountered in the workplace environment. The unnecessary use of latex gloves should be eliminated. Non-latex gloves should be used in workplaces where there is little potential for contact with infectious materials.
- 2) In workplaces where latex gloves are used, only **powder-free, low-protein latex gloves** should be provided to workers. Where practicable and appropriate, workers at a high risk of developing latex sensitivity should be provided with non-latex gloves or non-latex glove liners. Glove manufacturers should be consulted for data on the levels of powder, latex protein allergens, or chemical allergens in their products.
- 3) Additional control measures should incorporate:
 - good housekeeping practices to avoid the build-up of latex-containing dust on workplace surfaces;
 - personal hygiene practices, including washing of hands after removal of latex gloves.
- 4) All workers required to wear latex gloves should be provided with education and training about latex allergies, the potential health effects associated with using latex gloves, the risk factors associated with latex sensitization, and appropriate precautions to minimize exposure. Workers should be able to recognize the symptoms of latex allergy, including skin rash, hives, itchiness, eye, nose and sinus symptoms, asthma, and shock.
- 5) Early detection of symptoms and elimination of latex exposure are essential for preventing further more serious health effects. Workers, particularly those who fall within high-risk groups for developing latex sensitivity, should be encouraged to conduct self-screening for latex allergy symptoms on an ongoing basis. Workers should be encouraged to report any symptoms suggestive of latex allergy reactions to their supervisor. Workers reporting such symptoms should be encouraged to consult with their personal physician or be referred to the University Health Service for prompt assessment. Until a definitive diagnosis can be made, measures should be taken to prevent or reduce latex exposure in the workplace, including the use of non-latex gloves or non-latex glove liners.
- 6) Should a worker be diagnosed with latex allergy:
 - He/she should be provided with non-latex gloves and should avoid all latex-containing products. Good quality nitrile or vinyl gloves may offer appropriate protection against the hazards encountered. Other workers in the same workplace should wear non-latex gloves or non-powdered, low-protein latex gloves.
 - The adequacy of existing control methods for latex exposure should be re-evaluated. This can be done in consultation with the Office of Environmental Health and Safety.
 - Appropriate efforts to accommodate the latex-sensitive worker should be taken. For the highly sensitive worker, relocation of the worker to a latex-free area may need to be considered.
 - Appropriate emergency procedures for latex-allergic workers should be in place and well-documented.

Workers diagnosed as having a latex allergy should:

- 1) Use only non-latex gloves, and avoid all latex-containing products;
- 2) Inform their supervisor about their latex allergy;
- 3) Follow their physician's recommendations for dealing with latex allergic reactions, which may include carrying an epinephrine self-injection kit (e.g. Epi Pen with non-latex accessories) for highly sensitive workers;
- 4) Wear a medical alert bracelet indicating their allergy.

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