

## Latex Allergy - Policy Framework and Guidelines for Prevention and Management

**Document Number** PD2005\_490

**Publication date** 25-Feb-2005

**Functional Sub group** Personnel/Workforce - Occupational Health & Safety

**Summary** Policy framework for the prevention of sensitisation and minimisation of symptoms associated with exposure to latex proteins.

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**Applies to** Area Health Services/Chief Executive Governed Statutory Health Corporation, Board Governed Statutory Health Corporations, Affiliated Health Organisations, Community Health Centres, Dental Schools and Clinics, NSW Ambulance Service, Public Hospitals

**Distributed to** Public Health System, Community Health Centres, Dental Schools and Clinics, Divisions of General Practice, Environmental Health Officers of Local Councils, Government Medical Officers, Health Associations Unions, Health Professional Associations and Related Organisations, NSW Ambulance Service, Public Health Units, Public Hospitals, Private Hospitals and Day Procedure Centres, Private Nursing Homes

**Review date** 25-Feb-2010

**File No.** 97/1580-2

**Previous reference** 2000/99

**Issue date** 06-Dec-2000

**Status** Active

**Director-General**

**Compliance with this policy directive is mandatory.**

<b>File No</b>	97/1580-2
<b>Circular No</b>	2000/99
<b>Issued</b>	6 December 2000
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### **Policy Framework and Guidelines for the Prevention and Management of Latex Allergy**

Latex is the sap of the commercial rubber tree, *Hevea brasiliensis*. The proteins in latex can cause a range of mild to severe Type I allergic reactions. A number of allergenic proteins responsible for Immunoglobulin E (IgE) mediated reactions have been identified. Frequent users of latex products may develop an allergy to latex proteins resulting in mild to life threatening allergic reactions.

A large range of equipment and products currently used in Health Services contains Latex. This includes specifically health related equipment such as endotracheal tubes, catheters, dressings, surgical gloves and other items that are used extensively in the provision of treatment and care, to essentially domestic products that are also used widely in the community. Frequent users of latex products may develop an allergy to latex proteins resulting in mild to life threatening allergic reactions.

The objectives of the Policy Framework and Best Practice Guidelines are to:

- reduce the incidence of sensitisation to latex and prevent the occurrence of allergic reactions in sensitised individuals;
- meet the duty of care to all health care workers and health consumers;
- satisfy legislative requirements;
- provide safe and efficient Health Services;
- contain costs;
- eliminate the use of latex in NSW public health care facilities as far as possible by 2003; and
- eliminate the use of powdered latex gloves in the first instance.

For the purposes of this document 'Health Service' refers to the Department of Health, public health organisations as defined under section 7 of the Health Services Act 1997 (including Area Health Services), Corrections Health Service, The Children's Hospital at Westmead and the NSW Ambulance Service.

Distributed in accordance with circular list(s):

<b>A</b>	8	87	8	11
<b>F</b>	17	<b>G</b> 12	<b>H</b> 30	<b>I</b> 10
<b>K</b>	10	<b>L</b> 24	<b>M</b> 6	<b>N</b> 24
			<b>P</b>	66

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NSW Health is committed to the development of Policy and Guidelines for the Prevention and Management of Latex Allergy in NSW Public Health Care Services. Health Services should now develop or review existing Latex Management Policies in light of the attached Policy Framework.

Michael Reid  
**Director-General**



Policy Framework and Guidelines for the  
Prevention and Management of Latex Allergy in  
NSW Public Health Services

**Circular No 2000/99**

**December 2000**

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# 1. Introduction

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## 1.1 Scope

This document outlines NSW Health policy framework for the prevention of sensitisation and minimisation of symptoms associated with exposure to latex proteins. All Health Services are required to implement this policy.

This document needs to be read in association with the NSW Health *Policy and Guidelines for the Management of Hazardous Substances in NSW Public Health Services* (Circular 98/76) and NSW Health *Infection Control Policy* (Circular 99/87).

The policy framework and guidelines address type I (immediate) allergy to latex protein. They do not address allergy to other chemicals such as curing agents that may be found in natural rubber products, nor do they deal with allergy to synthetic latex substances.

The policy and guidelines have been designed to assist managers, supervisors, staff and occupational health and safety committees of Health Services to prevent and manage latex allergy, and to meet their legislative requirements.

The policy and guidelines should be brought to the attention of:

- ❑ Health Service managers;
- ❑ clinical services and dental services;
- ❑ OHS Officers/risk management units;
- ❑ OHS committees;
- ❑ infection control staff;
- ❑ cleaning and food service management staff; and
- ❑ any other departments which use products containing latex.

## 1.2 Rationale

NSW Health has duties under the Occupational Health and Safety Act 1983 (NSW) to ensure the health and safety of staff, patients and the public who visit or use the premises. The policy and guidelines are a response to the above responsibilities and the emerging significance of latex allergy in health care.

The first report of allergy to latex appeared in 1927 (Stern, 1927).

The number of reports of allergic reactions to latex has increased dramatically in recent decades. This has been attributed by Truscott (1995) to factors including:

- the introduction of standard precautions
- the quality of the latex products with new producers inexperienced in manufacturing and storing latex containing materials (particularly gloves), entering the market; and
- greater familiarity with latex allergy and better diagnostic methods leading to improved recognition of the allergy.

Many overseas studies have been published examining the risk of sensitisation in health care workers. Recently, three minor studies have been published in Australia confirming the findings of overseas data:

- Katelaris *et al* (1997) conducted a questionnaire survey of dental workers in a large facility in western Sydney. Sixteen out of 177 respondents reported symptoms suggestive of latex allergy.
- Douglas *et al* (1997) investigated the prevalence of latex allergy among nurses working in an Australian hospital. 22% out of 140 nurses testing positive to at least one of the five test reagents
- Valentine, J.P. *et al* (1999) investigated latex allergy in children and adolescents with spinal dysfunction.

## 1.3 Background

### 1.3.1 What is Latex?

Latex is the sap of the commercial rubber tree, *Hevea brasiliensis*. Natural rubber is derived from latex, and must be distinguished from synthetic rubber, derived from petrochemicals which may also be referred to as "latex".

It is important to note that latex sensitisation is related to proteins found in latex and not to chemical additives found in latex products. The proteins in latex can cause a range of mild to severe Type I allergic reactions. A number of allergenic proteins responsible for IgE mediated reactions have been identified.

### 1.3.2 Latex Uses

Latex has widespread use in the community and in health care. Latex can typically be found in products such as gloves, airways, intravenous tubing, syringes, stethoscopes, catheters, dressings and bandages (see also table 1 below).

The presence of latex may not always be apparent. In health care, powdered latex gloves are thought to contribute significantly to the development of latex allergy.

**Table 1 – Examples of Latex Containing Products**

	<b>Health Care Equipment</b>
Blood pressure cuffs	Tourniquets
Stethoscopes	Intravenous tubing
Gloves	Syringes
Oral and nasal airways	Electrode pads
Endotracheal tubes	
Anaesthesia masks	Injection ports
Catheters	Rubber tops of pharmaceutical vials
Wound drains	Dental dams
	<b>Household Items</b>
Vehicle tyres	Dishwashing gloves
Motorcycle and bicycle handgrips	Hot water bottles
Carpet backing and underlay	Condoms
Swimming goggles	Diaphragms
Racquet handles	Balloons
Shoe soles	Pacifiers
Expandable fabric	Baby bottle nipples
	<b>Office Supplies</b>
Rubber bands	Erasers
	<b>Personal Protective Equipment</b>
Gloves	Respirators
Surgical masks	Rubber aprons
Goggles	Hearing protectors

## 1.4 Health Effects

Frequent users of latex products may develop an allergy to latex proteins resulting in mild to life threatening allergic reactions.

Studies (Moneret-Vautrin et al, 1993; Katelaris et al, 1997; Douglas et al, 1997) have shown a higher incidence of latex allergy in the following groups:

- ❑ health care workers, particularly operating theatre nurses and physicians;
- ❑ patients with spina bifida and congenital genitourinary abnormalities;
- ❑ latex product manufacturing workers;
- ❑ individuals with certain food allergies;
- ❑ health consumers with repeated exposure to latex, e.g. those who have undergone multiple surgical procedures or long term catheterisation.

Atopy may increase the risk of developing latex allergy. Moneret-Vautrin noted that a significant proportion of latex allergic health care workers may be atopic (Moneret-Vautrin *et al*, 1993).

Latex allergy has also been reported in the absence of known risk factors.

There are three types of reactions that may occur in persons using latex gloves:

- irritant dermatitis;
- allergic contact dermatitis; and
- immediate hypersensitivity.

Dermatitis has been implicated as a factor in latex sensitisation because barrier properties of the skin are reduced allowing absorption of larger amounts of latex proteins. Allergic contact dermatitis may precede the onset of latex allergy.

Patch testing must be used to distinguish between irritant and allergic dermatitis.

Persistent hand dermatitis needs to be clinically investigated to determine the underlying cause and identify suitable preventive precautions and treatment.

#### **1.4.1 Irritant Dermatitis**

This is the most commonly reported problem. It is a non-allergic skin rash, characterised by redness, dryness, scaling, blistering and cracking. Such changes may be caused by sweating, glove irritation, or frequent hand washing.

The use of cotton liners or non-latex gloves should reduce the risk of sensitisation and these strategies are recommended for individuals with irritant or allergic contact dermatitis.

#### **1.4.2 Allergic Contact Dermatitis**

Contact dermatitis is a Type IV mediated immune response (delayed hypersensitivity) to the chemical additives in the gloves. Chemical additives such as accelerators and antioxidants (e.g. thiurams and carbamates) are commonly implicated. It results in eczema. The skin may become dry, crusted and thickened. Diagnosis of this problem is conducted with patch testing. A change to gloves that do not contain the implicated chemical or the use of cotton lining usually reduces the problem.

#### **1.4.3 Immediate Hypersensitivity to Latex**

Immediate hypersensitivity (Type I) reactions to latex may result from contact with or inhalation of latex proteins (e.g. those which become adsorbed to the glove powder).

A full range of allergic symptoms, including itchy and runny eyes and nose, hives, angioedema (swelling), asthma, anaphylaxis and death have all been documented.

#### 1.4.4 Routes of Exposure

Routes of exposure to latex proteins can include:

- direct contact with a range of medical or non-medical latex containing products;
- inhalation of airborne latex proteins; and
- exposure of mucosal or serosal surfaces to medical products such as rubber catheters or gloves.

Although the amount of exposure needed to cause sensitisation or symptoms is not known, studies indicate that the higher the overall exposure in a population, the greater the likelihood that more individuals will become sensitised. Reductions in exposure to latex proteins have been reported to be associated with decreased sensitisation and symptoms (Brehler R *et al*, 1997).

#### 1.4.5 The Role of Gloves in Latex Allergy and Other Adverse Health Outcomes

The use of powdered gloves with a high level of residual latex proteins is thought to be likely to be responsible for the increases in Type I allergy to latex (Heese *et al* 1997). The proteins responsible for latex allergies have been shown to adhere to powder that is used on some latex gloves. When powdered gloves are worn, more latex protein reaches the skin. When gloves are donned or removed, latex protein becomes airborne via the powder particles where they can be inhaled and contact the respiratory tract.

Work areas where only powder-free gloves are used show low levels or undetectable airborne levels of allergy-causing proteins.

The use of powdered gloves in the surgical environment has also been associated with:

- the formation of adhesions leading to further surgery (Holmdahl, 1997);
- potential misdiagnosis of cancers (Giercksky, 1997); and
- infection control issues (Newsome and Shaw, 1997; Renz and Gemsa, 1997).

#### 1.5 Economic Implications

Latex allergy has economic implications through costs arising from:

- the sensitisation of health care workers (workers compensation costs);
- prolonged patient stays and adverse treatment outcomes;
- medico-legal issues;
- treatment of sensitised individuals; and
- changes required to minimise latex allergy sensitisation and reactions.

These are discussed further in Section 3 - Economic Considerations.

## 2. Policy

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### 2.1 Policy

*Health Service employees and clients are to be protected from adverse health effects arising from exposure to latex. Each Health Service is to develop and implement a policy and appropriate procedures for the prevention and effective management of latex allergy in health consumers and health care workers.*

*As a minimum, Health Services are required to:*

- Recognise the importance of reducing latex exposure by allocating appropriate funding and resources to ensure the effective implementation of this policy.*
- Ensure timely and relevant consultation with employees and their representatives, occupational health and safety committees, and consumer groups in formulating local policy and procedures.*
- Develop strategies for the prevention of latex allergy in health care workers, early identification where it does occur and its effective management. Prevention strategies are to include as a minimum the change to powder-free latex gloves.*
- Include strategies for the identification and effective management of latex allergic health consumers.*
- Provide appropriate information, education and training for health care workers and health consumers.*
- Develop emergency procedures.*
- Generate and manage appropriate documentation.*

*Conduct ongoing monitoring and review of local policies, procedures and guidelines to ensure their continuing relevance and validity.*

The objectives of this policy are to:

- reduce the incidence of sensitisation to latex and prevent the occurrence of allergic reactions in sensitised individuals;
- meet the duty of care to all health care workers and health consumers;
- satisfy legislative requirements;
- provide safe and efficient Health Services;
- contain costs;
- eliminate the use of latex in NSW public health care facilities as far as possible by 2003; and
- eliminate the use of powdered latex gloves in the first instance.

## **2.2 Accountabilities**

- 2.2.1 NSW Department of Health** The NSW Department of Health is responsible for setting policy direction for the health and safety of all staff in NSW Health.
- 2.2.2 Chief Executive Officers** Chief Executive Officers are responsible for ensuring:
- ❑ the implementation of this policy, and that the objectives of the NSW Health are met;
  - ❑ development of local policies and programs which complement Department policy;
  - ❑ evaluation and monitoring of local policies and programs; and
  - ❑ reporting the outcomes to the appropriate Health Service Board or the Director-General.
- 2.2.3 Managers and Supervisors** Managers, supervisors and team leaders are responsible and accountable for:
- ❑ promotion and support of the latex policy and program in their areas of responsibility. This shall include the identification, assessment and control of risks;
  - ❑ development and implementation of local policy;
  - ❑ ensuring that staff under their management are appropriately trained;
  - ❑ ensuring that staff under their control understand and follow safe work practices and report any incidents including adverse reactions in patients; and
  - ❑ taking appropriate action when hazards are reported or incidents occur.
- 2.2.4 Occupational Health and Safety Staff** Occupational health and safety staff are responsible for:
- ❑ providing advice, support and information on the prevention and control of workplace risks arising from the use of latex; and
  - ❑ monitoring latex policy and program implementation.
- 2.2.5 Occupational Health and Safety Committees** Occupational health and safety committees are responsible for:
- ❑ providing a forum for joint consultation on latex risk management issues; and
  - ❑ monitoring implementation of the local latex policy and program.

## 2.2.6 Employees and Contractors<sup>1</sup>

All employees and contractors are responsible for:

- participating in the consultative process, and in OHS training;
- where possible, following all policies and procedures related to the use of latex products;
- reporting potential latex problems and incidents; and
  
- not putting themselves or others at risk by their actions or omissions.

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<sup>1</sup> Contractors includes agency staff and visiting medical officers.

## 3. Economic Considerations

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### 3.1 Policy

*Each Health Service is to:*

*Recognise the importance of reducing latex exposure in their workplace, by allocating appropriate funding and resources to ensure the effective implementation of this policy.*

### 3.2 Guidelines

#### 3.2.1 Using Non-Powdered Gloves

The costs associated with providing a latex safe workplace will predominantly be associated with the changes required with respect to latex gloves. Currently the cost of powder-free latex gloves and non-latex alternatives is higher than that of powdered gloves but costs are gradually decreasing as industry demand for powder-free and latex-free alternatives increases.

It should be noted that some case studies found that the overall cost of gloves was actually reduced despite an increase in the number of gloves purchased (Hunt *et al*, 1996; Cameron, 1997).

#### 3.2.2 Cost Benefit Analysis Information

The change to powder-free gloves and non-latex alternatives may result in an increase in costs.

However, long-term savings will result from reduced costs associated with:

- **Prosecution and litigation.** Litigation costs include both direct and indirect costs associated with prosecution under the Occupational Health and Safety Act 1983 (NSW) and Regulations, and litigation against hospitals by health consumers for unsatisfactory treatment outcomes.
- **Workers compensation.** Workers compensation costs include both the direct and indirect costs. It has been estimated that the indirect costs are approximately three times the direct costs (Cameron, 1997).

Few cost benefit studies have been published regarding the provision of a latex safe environment and, of these, none to date have been published in Australia.

A Canadian study by Cameron (1997) indicates that the costs of setting up a latex allergy program include:

- project administration and staff time;
- setting up a latex allergy working group;
- development of training materials;
- training and conference programs;

- powder-free gloves;
- setting up a latex allergy clinic; and
- the move to a latex safe environment (including the provision of latex-free catheters and tubing as required).

In the above study, the changes needed to allow six staff with latex allergy to continue working generated a net saving for the facility.

## 4. Consultation

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### 4.1 Policy

*Each Health Service is to:*

*Ensure timely and relevant consultation with appropriate staff, employee representatives, occupational health and safety committees, and consumer groups in formulation of the local policy and procedures.*

### 4.2 Guidelines

Health Services are to consult with clinical personnel, employees, their representatives and health consumer groups who are likely to be exposed to risks from using latex.

Consultation should occur, but not be limited to:

- ❑ the development of policies and programs;
- ❑ determining training needs including the needs of special groups;
- ❑ investigation of incidents and hazard reports;
- ❑ hazard identification, risk assessment, and risk control;
- ❑ monitoring and treatment of latex related health effects;
- ❑ training and provision of information;
- ❑ product selection;
- ❑ any proposed changes to systems of work involving latex that may affect health and safety; and
- ❑ when the effectiveness of any implemented control measure is being reviewed.

Consultation may occur through formal and/or informal processes, and involve direct or representational participation. Such processes can include:

- ❑ formal and informal consultation with staff and unions;
- ❑ agenda items for staff and managers' meetings;
- ❑ using the OHS committee as a consultative forum for latex issues;
- ❑ open communication systems that encourage hazard reporting and suggestions for improvements;
- ❑ food services and product reviews; and
- ❑ staff surveys and client focus groups.

Consultation should occur with OHS committees in relation to the various aspects of management of latex allergy risks. The OHS committee should also monitor latex allergy incidents and be involved in the evaluation of the latex allergy management program.

Staff responsible for infection control should also be consulted to ensure infection control is not compromised.

## 5. Implementation

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### 5.1 Policy

*Each Health Service is to develop and implement a policy and appropriate procedures for the prevention and effective management of latex allergy in health consumers and health care workers.*

### 5.2 Timeframes for Implementation

The implementation process should eliminate the use of latex products where possible by 2003. As an interim measure and as soon as possible, the use of powdered latex gloves should be discontinued.

### 5.3 Guidelines

#### 5.3.1 Components of a Latex Risk Management Strategy

Essential components of a latex allergy prevention and management include:

- a latex risk management policy;
- latex risk management consultative committee;
- purchasing criteria and product evaluation process;
- product list (latex containing and latex safe);
- provision of latex-free crash carts;
- provision of a latex safe workplace;
- provision of non-latex alternatives for latex sensitised individuals;
- reporting systems;
- systems for the identification and assessment of latex allergic individuals (employees and patients);
- systems for the management of latex allergic patients and staff including interim arrangements until the workplace is latex-free;
- information resources for staff and patients;
- training programs for staff;
- medical emergency procedures; and
- evaluation procedures.

#### 5.3.2 Sample Implementation Guide

The steps Health Services should take in implementing a latex allergy and risk management program include:

- set up multidisciplinary committee;
- commit resources to implementation of the policy and guidelines;
- identify program components and what is needed to support the program;

- ❑ develop action plan;
- ❑ inform employees and contractors of the policy and action plan;
- ❑ audit latex use including all glove use;
- ❑ eliminate unnecessary use of latex gloves, e.g. in housekeeping and food preparation areas;
- ❑ prepare a list of latex containing and latex-free products and procedures for maintaining the list;
- ❑ develop procedures and set up safe work and patient environments (this includes development of procedures for identifying and managing latex allergic employees and patients and interim arrangements until the workplace is totally latex-powder-free);
- ❑ set up latex-free crash carts;
- ❑ develop training and information resources;
- ❑ develop reporting and evaluation systems;
- ❑ implement training for all staff including contractors such as agency staff and VMOs;
- ❑ implement procedures, equipment, safer work environments, etc starting with the highest risk areas ;
- ❑ promote the policy and latex friendliness widely, including in the community; and
- ❑ monitor implementation and evaluate.

#### **5.4 Latex Risk Management Consultative Working Group**

The formation of a multi-disciplinary latex risk management consultative working group should be considered. The working group should provide input to both the health and safety of employees and health consumer safety. The membership of this task force should include representation from all key stakeholders.

The committee should maintain liaison with the OHS Committee.

The working group should ensure that ongoing consultation occurs with employees and health consumer groups about all aspects of the program, and its implementation and evaluation.

#### **5.5 Glove Use Audit**

As latex gloves are the medical product most commonly implicated in occupationally acquired latex allergies in the health industry, facilities are to conduct a review of glove use. The unnecessary use of latex gloves should be eliminated. Non-powdered gloves are the minimum standard in NSW Health.

**5.6 Database of Latex Containing and Latex-free Products**

Health Services should prepare a database of all latex products used within the service. The database should include information on the latex protein content where this is available.

A database of non-latex substitutes for medical supplies and devices should be accessible. A regular review and updating of these lists is recommended.

A list of latex-free products is included in Appendix B: Latex-free Medical Equipment. This list is not exclusive or exhaustive, and will need regular updating.

## 6. Health Care Employees - Prevention, Early Identification and Management

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### 6.1 Policy

*Each Health Service shall:*

*Develop strategies for the prevention of latex allergy in health care workers, early identification where it does occur and its effective management. Prevention strategies are to include the change to powder-free latex gloves.*

### 6.2 Guidelines

Some of the advice below is given on the basis that powder-free status has not yet been achieved. Once powder-free status is achieved, some of the precautionary measures will not be needed.

Prevention strategies introduced for health care workers will also have a positive impact on health consumer safety.

#### 6.2.1 Prevention Strategies for the Management of Latex Allergy in Health Care Employees

The key to reducing the incidence of latex allergy in health care employees is the reduction of latex exposure. The predominant source of exposure is latex gloves through contact with gloves and inhalation of powder. Although latex gloves and other manufactured products are not classified as hazardous substances under the NSW Occupational Health and Safety (Hazardous Substances) Regulation 1996, any powders and dusts containing latex proteins could be considered as hazardous substances. The Regulation requires employers to assess and control exposure to hazardous substances in the workplace and to provide health surveillance where appropriate. A review of current prevention strategies should be undertaken whenever an employee is diagnosed with latex allergy.

##### **(i) Latex Gloves**

In order to reduce exposure to airborne latex, only powder-free, or non-latex gloves are to be used in NSW health care facilities. The existence of invisible powder particles in the air, in air-conditioning ducts and on surfaces means that exposure to latex cannot be controlled.

Allergenicity of latex gloves is related to both the quantity, and the type of protein antigens they contain.

- (ii) Hypoallergenic Gloves** The term "hypoallergenic" refers to the allergenic properties related to Type IV allergic reactions caused by chemical additives in the gloves. Hypoallergenic gloves are usually made from latex and should not be used to manage latex allergic individuals. There is no standard for hypoallergenic latex gloves, which are often mistakenly assumed to be non-latex.
- (iii) Non-Latex Gloves** Hospitals need to evaluate non-latex gloves for their functionality, durability, barrier protection, cost and compliance to AS/NZS 4011: 1997 *Single-use examination gloves - Specification*. They reduce exposures to latex and reduce the risk of latex allergy. When managing latex allergic individuals, non-latex gloves are to be used.
- (iv) Hand Care** Hand care may be important in minimising latex sensitisation. Appropriate work practices should be implemented to reduce the risk of reactions to latex.
- do not use oil-based hand creams or lotions (which can cause glove deterioration) unless they have been shown to reduce latex-related problems and maintain glove barrier protection.
  - after removing gloves, wash hands with water and soap or mild disinfectant and dry thoroughly.
- (v) Non Latex Products** The gradual replacement of latex containing products with non-latex products where available and appropriate is recommended. Health Services are to be latex-free as far as possible by 2003.
- (vi) Pre-Placement Health Assessment** To allow for safe accommodation of sensitised individuals, pre-placement health assessments should include screening for potential latex allergy and include:
- general medical history; and

- symptom questionnaire relevant to the possible health effects of latex exposure (see Appendix C: Sample Diagnostic Checklist for the Identification of Health Care Workers at Risk of Latex Allergy).

Where these indicate possible sensitisation, the following additional steps should be undertaken:

- specific testing for latex allergy; and
- evaluation by a suitably qualified physician.

Pre-placement health assessments assist the process of ensuring employees are better informed about susceptibility to latex allergy and how to identify it.

**(vii) *Response to Reports of Latex Allergy***

Any reported symptoms suggestive of latex sensitisation indicate that risk assessments and control measures for the work area process in which the symptoms originated should be formally reviewed to ensure current prevention strategies are adequate.

The work environment must be made safe for latex allergic individuals. Early diagnosis and protection of symptomatic workers from latex exposure are essential for preventing long-term health effects.

**(viii) *Routine Surveillance of High Risk Groups***

Health Services should consider health surveillance of those employees exposed to latex, especially those in high risk groups. The Occupational Health and Safety (Hazardous Substances) Regulation 1996 requires that health surveillance be undertaken or supervised by a WorkCover NSW authorised medical practitioner. In workplaces where non-powdered gloves are used the need for a health surveillance program is greatly reduced.

As soon as practicable after undergoing health surveillance, employees should be notified of the results by the medical practitioner. The medical practitioner should also notify:

- the Health Service of the general outcome of the surveillance and advise any actions of a preventive or remedial nature that the surveillance may indicate; and

**6.2.2 Managing Latex Sensitised Health Care Employees**

**(i) *Appropriate Treatment***

- WorkCover NSW if any adverse results consistent with latex allergy were detected.

Any health care workers with latex allergy are to be provided with a safe place of work.

Protective measures are to include:

- avoidance of latex exposure;
- treatment of symptoms;
- preparedness for serious reactions to latex;
- communicating the allergy to the employer and health care providers.

This includes the removal of powdered latex gloves from their place of work and any other measures required to make the workplace safe. It may also involve a transfer to work that does not involve potential exposure to latex, although this should be considered a short-term option until the hazards are controlled. Any transfers must be in accordance with anti-discrimination policies and legislation.

Individuals who have a confirmed latex allergy should wear a Medic-Alert bracelet.

**(ii) *Work Environment Modification***

Work environment modification is to consider the following:

- all work areas that a worker needs to go to;
- patient movements between different parts of the facility;
- other worker contacts; and
- common air -conditioning areas.

As a minimum, a latex powder-free work environment must be provided to protect latex allergic employees. Sources of patients to that area are to also be latex powder-free.

Latex allergic workers shall only use non-latex gloves and other products, and avoid contact with all latex-containing products.

Housekeeping should be meticulously carried out to remove all traces of latex allergens.

- (iii) Emergency Management** Due to the potential for severe reactions to latex, appropriate emergency protocols need to be in place. Information on the emergency management of latex allergy reaction is further discussed in Section 8 – Emergency Procedures.
- (iv) Health Surveillance** Health Services must consider health surveillance to detect and monitor employees who are sensitised to latex.
- Health surveillance should be conducted in accordance with the regulatory requirements (see section 6.2.1 (viii)).
- See Section 9 Documentation regarding confidentiality of medical records.
- (v) Occupational Rehabilitation** Rehabilitation should be provided in accordance with the requirements of the Workplace Injury Management and Workers Compensation Act 1998 and local policies (see also comments under section 6.2.2(i)).

## 7. Health Consumers - Identification and Management of Latex Allergy

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### 7.1 Policy

*Each Health Service is to:*

*Include strategies for the identification and effective management of latex allergic health consumers in the various clinical settings.*

### 7.2 Guidelines

In the case of planned admissions it is possible to obtain the history of the patient with respect to latex allergy or potential latex allergy. However, not all presentations to health care facilities are planned. If a patient history cannot be obtained, the patient should be treated as potentially allergic and should be observed closely for signs of latex sensitivity.

The basic principles of caring for the latex allergic health consumer are:

- ❑ **Recognise the problem.** Health consumers frequently exposed to latex-containing products may be sensitised to latex.
- ❑ **Avoid exposure to latex.** Treat in a latex safe area with non-latex equipment.
- ❑ **Inform the treating staff.** This enables the treatment of the health consumer in a latex safe environment before, during and after surgery/treatment.
- ❑ **Be prepared to treat anaphylaxis.** Watch for the anaphylactic triad of hypotension, bronchospasm and angioedema, and have adrenalin available.
- ❑ **Plan all procedures.** From admission to discharge all procedures must be planned. This includes ward placement, ward procedures, monitoring, resuscitation, environmental, domestic and kitchen activities.
- ❑ **Be vigilant.** This is especially important post-operatively and during follow-up care. Where health consumers have reactions, arrange ICU admission and allergist referral.

#### 7.2.1 Identification of Latex Allergic Health Consumers

**(i) High Risk Health Consumers**

The health consumers most at risk are those with prolonged or frequent exposure to latex products, especially:

- ❑ health consumers with neural tube defects (meningomyelocele, spina bifida) and congenital urogenital abnormalities;

- health consumers who have had multiple surgical procedures; and
- health care or other workers with increased exposure to latex, (e.g. theatre personnel, dental workers, cleaners, rubber industry workers).

Note that on rare occasions health consumers with no apparent risk factors have exhibited severe allergic reactions.

**(ii) Identification Methods**

The identification of at risk groups for latex allergy should be a standard part of admission to a Health Service. Initially a detailed history should be taken. Where indicated by the history, diagnostic testing for latex allergy should be undertaken by skin test if available (the results can be read in 15 minutes) or by RAST (results take approximately 2 days). Where these tests are not available or time is too short, health consumers from high risk groups should be treated as if they are latex allergic.

*Medical History*

A health consumer history should inquire about risk factors, and allergic symptoms that occur after contact with latex-containing items. Ask specifically about:

- a rash when using gloves;
- surgery for spina bifida, urogenital malformations and other such conditions early in life;
- allergy to certain foods, notably avocado, banana and chestnut;
- history of unexplained intra-operative anaphylaxis;
- lip and facial swelling after blowing up balloon;
- asthma symptoms;
- rhinitis and conjunctivitis;
- atopy (hay fever, asthma); and
- occupational exposure to latex.

The use of a standard checklist to assist with taking a detailed health consumer history is recommended. Prior to the confirmation of suspected latex sensitisation any health consumer shall be treated as if they are sensitised to latex.

A sample checklist used for the identification of latex allergy is provided in Appendix D: Diagnostic Checklist for the Identification of Health Consumers at Risk to Latex Allergy.

*Diagnostic Tests* Diagnostic testing is recommended only for those with a suggestive history of reaction to latex or evidence of belonging to a high risk group. This would include:

- ❑ unexplained allergic/anaphylactic reactions;
- ❑ intraoperative hypotension, bronchospasm or anaphylaxis;
- ❑ a history of multiple surgical procedures;
- ❑ reactions to foods known to cross react with latex; and
- ❑ a history of atopy (i.e. asthma, hayfever or eczema) either personally or in first degree relatives.

Tests available are:

- ❑ skin-prick test; and
- ❑ *in-vitro* testing for IgE antibodies.

Skin-prick testing should be performed only at Health Services with staff who are experienced and equipped to handle severe reactions.

### 7.2.2 Management of Consumers with Latex Allergy

Appendix E – Guidelines for the Management of People with Latex Allergy provides extensive guidance on the latex-safe preparation of wards, theatres and consulting rooms.

The management of health consumers with latex allergy is significantly less onerous where only powder-free latex gloves are used.

Where a health consumer who presents for urgent or emergency treatment is in a high risk group, they should be treated as if latex allergic.

Management techniques include:

- ❑ all hospitalised latex allergic health consumers should have proper identification of their latex allergy on armbands, hospital charts, beds and room entrances;
- ❑ latex allergic health consumers should be admitted to latex-safe rooms. Latex products especially gloves should not be used on other health consumers in the same rooms;
- ❑ surgery on latex allergic health consumers should be done in latex safe operating room suites. It is noted that latex allergy safe areas include the sterile field;
- ❑ if latex-safe operating rooms are not routinely available, health consumers admitted for elective procedures should be booked as the first case of the morning in order to minimise exposure to airborne latex;
- ❑ all hospital personnel entering a latex-safe environment, whether or not they are in direct contact with latex allergic health consumers should only wear non-latex gloves; and
- ❑ hospital personnel who have used latex gloves prior to attending to the latex-sensitive health consumers should wash their hands and put on a clean gown before entering the health consumer's room to reduce potential exposure to residual latex powder.

**(i) Latex Avoidance for High Risk Groups**

Efforts should be made to avoid latex exposure from birth in all children with spina bifida or other medical conditions that require early and repeated surgical intervention or instrumentation, particularly if this involves the genitourinary system.

All spina bifida patients and all latex allergic health consumers should receive a detailed explanation and counselling about their allergy and safe alternative products, including the need for latex avoidance procedures during medical, surgical and dental procedures.

**(ii) Creating a Latex Safe Environment**

Latex safe areas for direct patient care are defined as those containing only non-latex materials. This includes:

- ❑ gloves;
- ❑ catheters;
- ❑ feeding nipples and tubes;
- ❑ medication containers without latex stoppers;
- ❑ IV equipment;

- ❑ surgical tape;
- ❑ tourniquets;
- ❑ ventilation and airway equipment;
- ❑ monitoring equipment;
- ❑ condoms/penile sheaths/urodomes;  
and
- ❑ dental dams.

To assist with creating latex allergy safe environments the following should be considered:

- ❑ latex-free materials should be readily available to health care workers;
- ❑ emergency carts with latex-free medical products are to be available in hospital wards and emergency departments;
- ❑ lists of non-latex substitutes for medical supplies and devices should be accessible and regularly reviewed and updated;
- ❑ all procedures carried out on latex allergic health consumers should occur in latex safe environments using appropriate procedures and equipment; and
- ❑ emergency departments require special attention due to the rapid response times required.

**(iii) Preparation of Latex Safe Areas**

The following steps should be taken where a powder-free environment cannot be guaranteed:

- ❑ use non-latex gloves;
- ❑ prepare single rooms where possible;
- ❑ where powdered gloves were used, theatres need to be left undisturbed for three hours prior to cleaning and use to allow powder to settle;
- ❑ all equipment and furniture should be damp dusted to remove any traces of latex contaminated dust and debris;
- ❑ powdered latex gloves are not to be used on the ward.
- ❑ the prepared room should have appropriate signage at all entrances to assist with maintaining the area as latex-free;

- ❑ all procedures should be planned where possible; and
- ❑ always be prepared to treat serious reactions.

**(iv) Latex-free  
Emergency Carts**

Crash carts made up with latex-free products are to be available.

A list of latex-free products is contained in Appendix B: Latex-free Medical Equipment. Note that this list is not exclusive or exhaustive, will need updating and is not an endorsement for the specific products listed.

Checks should be undertaken with the manufacturers of each item to ensure that the products are latex-free, e.g.

- ❑ **Gloves** - Neoprene, nitrile or other non-latex gloves (sterile and non-sterile) should be provided.
- ❑ **Drugs – drug vials must not have rubber ports.**
- ❑ **IV Tubing** - Regular IV tubing has latex injection ports. Tubing without ports should be provided. Alternatively, tape over and do not use the ports. Use stopcocks for injection.
- ❑ **Breathing systems** - Anaesthesia circuits are usually latex-free, but reservoir bags may contain latex. A neoprene (or other alternative) bag should be substituted. The anaesthesia ventilator bellows on some machines contain latex. Plastic facemasks should replace latex ones. Select resuscitation bags with latex-free valves.
- ❑ **Airway Equipment** - PVC and silicon airway equipment are to be used.
- ❑ **Other Notes** - A non-latex protective material can be provided, for placing under a latex tourniquet or BP cuff to avoid contact with the skin. Therapeutic goods and surgical instruments and implants containing latex are to be avoided.

All crash carts should be latex-free due to the costs of maintaining two systems, and the need to ensure that health consumers of unknown latex allergy status can be protected.

The costs associated with the potential consequences of allergic responses should also be considered.

**(v) *Pharmacological Prophylaxis***

Pharmacological prophylaxis with steroids and antihistamines is not considered to be an alternative to latex avoidance. There is no scientific evidence to suggest that pre-treatment can prevent anaphylactic reactions from latex exposure.

**(vi) *Clinical Protocols***

Clinical protocols for a range of speciality areas have been developed by Australian Society of Clinical Immunology and Allergy (ASCI) (Katelaris *et al* 1998). These include:

- ❑ Guidelines for Hospital Management of Latex Allergic Patients;
- ❑ Operating Suite Guidelines;
- ❑ Guidelines for General Practice Management of Latex Allergic Patients; and
- ❑ Guidelines to Promote Safe Practice in the Dental Environment for Latex Allergic Patients.

## 8. Emergency Procedures

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### 8.1 Policy

*Each Health Service shall:  
Develop emergency procedures.*

### 8.2 Guidelines

Severe allergic reaction consists of symptoms including urticaria (hives), angioedema (swelling), closing of throat or difficulty breathing, light-headedness and the appearance of flushing. Reactions can quickly proceed to severe anaphylactic shock. This includes hypotension and collapse. Anaphylaxis has been reported in people pre-treated with antihistamines and steroids and managed in a presumed latex-free environment.

The onset of anaphylaxis is variable. It may be immediately or occur up to an hour after exposure to the antigen. It usually presents with the clinical triad of hypotension, upper airway oedema and bronchospasm with hypotension as the most common sign. A rash while common is not always seen.

Treat anaphylaxis according to current protocols. Latex-free equipment must be used (see 7.2.2 (iv)).

## 9. Documentation

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### 9.1 Policy

*Each Health Service shall:*

*Generate and manage appropriate documentation systems for each aspect of this policy.*

### 9.2 Guidelines

All documentation generated as part of the prevention program is evidence that the Health Service is working towards minimising sensitisation to latex and managing the problems associated with latex allergy.

Records associated with the implementation of this policy and guidelines shall be maintained and available to:

- NSW Department of Health;
- Numerical Profile auditors;
- employee representatives on OHS matters;
- WorkCover NSW inspectors; and
- occupational health and safety committees.

#### 9.2.1 Recording Latex-Related Incidents

Health care facilities should have incident reporting systems (staff and patient incidents) with the capacity to capture latex allergy as a specific causative agent.

#### 9.2.2 Records for Retention – Policy Implementation

It is recommended that the following information be recorded and retained:

- local policy and program;
- purchasing specifications related to latex containing equipment and latex-free substitutes;
- control measures implemented and when;
- procedure documentation;
- incident reports including investigations, consultation and action taken;
- reports evaluating latex allergy related injury prevention programs;
- training and education activities including attendance records;
- minutes of staff and other meetings where latex allergy issues are discussed; and
- management reports including latex allergy prevention program implementation in their areas.

Reports and other documents that indicate a need for employee health surveillance and the results of any health surveillance should be kept for at least 30 years from the date of last entry as required by the OHS (Hazardous Substances) Regulation 1996.

Records of induction and on-going training should be kept for at least five years from the date of their creation.

**9.2.3 Records of Health Consumers**

Information regarding patient latex allergy related incidents needs to be retained. This includes patient incident report forms and medical records along with any subsequent changes to procedures or the workplace deemed necessary to prevent recurrence.

Patient records should conform to the Departments policy on patient records (Guidelines for Essential Documentation, Management, Storage and Disposal of Health Care Records, NSW Department of Health, 1995).

**9.2.4 Records of Health Surveillance**

The medical practitioner is responsible for the storage and use of medical records. In particular, the medical practitioner is to ensure that:

- Medical records arising from health surveillance of employees are retained as confidential records, kept separate from other treatment records for that person, and are identified as being for the purpose of occupational health surveillance;
- The informed consent of employees is obtained, in writing, before health surveillance records that identify them are provided to any person who is not bound to observe the principles of professional confidentiality.

## 10. Information and Training

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### 10.1 Policy

*Provide appropriate education, training and other information for health care workers and health consumers.*

### 10.2 Guidelines

#### 10.2.1 Health Care Employees

**(i) Provision of Information**

Up-to-date information is to be provided by Health Services to health care employees on latex allergy. In the case of clinical employees and contractors, the information is to include the risks of exposure to themselves and management of patients. The information should include:

- ❑ the symptoms of latex allergy;
- ❑ other information to assist with the recognition latex allergy;
- ❑ information to assist with the assessment of suspected latex allergy;
- ❑ latex exposure minimisation techniques;
- ❑ treatment and management guidelines of latex sensitised health care employees and health consumers;
- ❑ information regarding non-latex alternatives;
- ❑ local policies and procedures for prevention of latex sensitisation; and
- ❑ the availability of latex-free treatment systems and work areas.

**(ii) Training**

Training is a requirement under the Occupational Health and Safety Act 1983.

- ❑ **Induction Training.** Training should be provided to all employees who are likely to be exposed to latex at work before they commence duties or as soon as possible afterwards. This training should be given in a manner that is appropriate to the employee's

knowledge and skill levels and take into account any language or other requirements (see Appendix G: Latex Allergy Information for New Employees).

- **Ongoing Training.** Training should be provided at least annually to ensure that up-to-date knowledge and practice is maintained and to provide a forum for procedural review. Training should be provided to:
  - health care workers at risk of exposure to latex;
  - clinical and dental personnel;
  - sensitised health care workers;
  - OHS&R staff;
  - OHS Committees; and
  - purchasing staff and stores staff.
- **Training content.** The content should be consistent with the requirements of the Occupational Health and Safety Act 1983 (NSW) and the Occupational Health and Safety (Hazardous Substances) Regulation 1996 (NSW). The following should be included:
  - potential health effects;
  - emergency treatment procedures;
  - when to use latex;
  - when not to use latex;
  - the use of latex;
  - recognition of symptoms;
  - diagnosis of latex allergy;
  - health surveillance;
  - management of latex allergy;
  - legislative responsibilities;
  - reporting of incidents and symptoms; and
  - latex-free and latex -containing products.

- ❑ **Training Records.** Training records should be kept (see Section 8 Documentation).

High-risk health consumers need to be informed that hospitals can be made latex safe, but the risk of a reaction still persists. This can be controlled by an increased awareness among Health Service staff, the use of latex substitutes and the appropriate use of prophylactic medications where indicated.

### 10.2.2 Health Consumers

Information is to be provided by Health Services to health consumers on latex allergy. This information should include:

- ❑ the symptoms of latex allergy;
- ❑ other information to assist with the recognition of latex allergy;
- ❑ what consumers can do if they suspect they may have latex allergy;
- ❑ how doctors go about diagnosing latex allergy;
- ❑ information regarding non-latex alternatives; and
- ❑ the availability of latex-free treatment systems.

Examples of information sheets have been developed by ASCIA (Katelaris *et al* 1998) for:

- ❑ Latex Allergy – Advice for Latex Allergic Individuals (Appendix G); and
- ❑ Latex Allergy – Information for New Employees (Appendix H).

# 11. Evaluation of Program Effectiveness

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## 11.1 Policy

*Each Health Service shall:*

*Ensure ongoing monitoring and review of these systems and procedures to ensure their continuing relevance, validity and effectiveness.*

## 11.2 Guidelines

The purpose of review and evaluation is to ensure that the program and its implementation are successful and continuous improvement goals are achieved. The evaluation should include:

- program implementation measures;
- control implementation and effectiveness;
- effectiveness of training;
- evaluation against program objectives and aims; and
- process and outcome performance measures.

Performance indicators should be in significant program areas, relevant to key outcomes and limited to a number that can be regularly reviewed without undue strain on resources.

Evaluation protocols should be developed in the planning stage of the program so that appropriate data can be collected on an ongoing basis.

Performance should be measured at facility and Health Service Levels.

### 11.2.1 Performance Indicators

In designing performance indicators, consideration should be given to what is being measured, what data needs to be collected, or what can be measured from information collected.

In addition, baseline data should be collected where possible to provide a point of comparison.

**(i) Outcome indicators** The following are examples of outcome indicators:

- incidence of latex related claims (number of claims per 100 employees);
- latex related claims cost;
- incidence of patient reaction to exposure to latex;
- cost of patient reactions;
- severity of incidents related to latex allergy; and
- the rate of new latex allergy diagnoses in employees.

**(ii) Implementation Indicators**

The following are examples of implementation indicators:

- ❑ development of local policy;
- ❑ development and implementation of protocols for identifying persons at risk;
- ❑ development and implementation of protocols for treating latex sensitised health consumers;
- ❑ identification of alternative work for latex sensitised health care workers; and
- ❑ change to facility wide use of non-powdered latex gloves; and
- ❑ progress towards latex-free status.

Reference can also be made to Section 5 - Implementation.

**(iii) Training Indicators**

- ❑ These may include:
- ❑ numbers of general and specific training courses conducted;
- ❑ the percentage of managers and employees who have attended appropriate training;
- ❑ the percentage of new staff trained within two weeks of commencement; and
- ❑ proportion of staff undergoing annual refresher training.

**(iv) Indicators of Commitment by Senior Staff**

- These may include:
- ❑ the establishment of latex risk management committees or recruitment of a latex risk coordinator;
  - ❑ the inclusion of accountabilities in performance agreements;
  - ❑ the number of position descriptions including occupational health and safety responsibilities; and
  - ❑ the number of senior staff attending appropriate training.

**(v) Staff Consultation Indicators**

- These may include:
- ❑ involvement of staff in developing the program and protocols;

- the frequencies that latex allergy issues are discussed at staff meetings; and
- employees' and managers' views regarding the control program (e.g. staff surveys).

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## Appendix A: Glossary of Terms

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The following lists these terms and defines them for the purposes of this document.

Accelerators	a substance that increases the speed of a chemical reaction, catalyst.
Adrenalin	a first line treatment for anaphylaxis
Allergen	antigenic substances which stimulate an allergic (IgE-mediated) response
Allergic contact dermatitis	a form of delayed hypersensitivity caused by an exogenous agent applied to the skin. Clinically, dermatitis is produced, localised to the area of contact. Common causes include nickel in dress jewellery, rubber accelerators and certain dyes.
Anaphylaxis	acute, generalised allergic reaction often very severe and potentially lethal.
Angioedema	transient swelling of deeper dermal and subcutaneous tissues. It is closely related to urticaria and produced by the same mechanisms. A life-threatening condition when the upper airway is involved.
Antigen	a substance that stimulates the production of antibodies.
Antioxidants	any substance that retards the deterioration by oxidation.
Atopy	refers to a hereditary predisposition to produce IgE antibody. Indicators of atopy are the presentation of one or more of the following - asthma, allergic rhinitis and atopic dermatitis (eczema). The atopic status of a person may be determined by performing skin tests with common environmental allergens.
Consultation	the sharing of information and exchange of views between managers, workers and/or their representative(s) on health and safety issues. It includes the opportunity to contribute to decision making in a timely fashion to resolve issues.
Dipped rubber products	products that are manufactured by dipping moulds into liquid rubber to form the final product. Examples include balloons, gloves and condoms.
Employment	the work or occupation in which a person is employed.
Health care facility	a place that treats health problems or employs health care professionals and is part of <i>NSW Health</i> .
Health care worker	a person employed in the health care industry.
Health consumer/s	a person requiring attention or the services offered by the health care industry.
Health Service	for the purposes of this document "Health Service" refers individually to the NSW Department of Health, public health organisations as defined under section 7 of the Health Services Act 1997 (including Area Health Services) and the NSW Ambulance Service.

Health surveillance	the monitoring of individuals for changes in health due to specific occupational exposures. It includes biological monitoring, but not atmospheric monitoring.
Hevea brasiliensi	the scientific name for the rubber tree cultivated for the purpose of commercial rubber production.
High risk workers	all staff with an atopic background who are in contact with latex allergens either by contact or inhalation
Hypertension	abnormally high blood pressure.
Hypoallergenic	a substance or product that is likely to produce a lower allergic response.
Hypotension	abnormally low blood pressure.
Hypersensitivity	an increased immune response leading to clinical effects, usually of tissue damage. The various hypersensitivity responses have been classified by Gell and Coombs and consist of Type I and Type IV hypersensitivity reactions.
Type I hypersensitivity	also known as IgE-mediated or immediate hypersensitivity, is due to an allergic reaction mediated by IgE antibody. Common examples of this are allergic rhinitis, asthma, urticaria and anaphylaxis.
Type IV hypersensitivity	also known as delayed type hypersensitivity refers to a reaction mediated by T cells. A common example is allergic contact dermatitis.
Irritant contact dermatitis	dermatitis produced by contact with irritant substances such as detergents. It is not a hypersensitivity reaction as no sensitisation is required. It is a chemical irritant effect.
Latex safe	areas where health care workers and health consumers are most unlikely to have an allergic reaction to an exposure to latex. These areas are not necessarily latex-free but latex exposure is minimal.
Latex	a whitish milky fluid containing protein, starch, alkaloids, etc., that is produced by many plants. Latex from a rubber tree and is used for the manufacture of rubber.
Latex-free	areas which are totally free of products that contain or are likely to contain latex.
Local	related to the health care facility.
Medic alert device	a device worn by a person to gain rapid response to medical assistance when the device is activated.
Natural rubber	product derived from the tree Hevea brasiliensis as opposed to a petroleum based product.
NSW Health	for the purposes of this document "NSW Health" refers collectively to the NSW Department of Health, public health organisations as defined under section 7 of the Health Services Act 1997 (including Area Health Services) and the NSW Ambulance Service.
Pathogens	any agent that can cause infectious disease.

Performance indicator	a measure of the performance of the particular activity or program. Should be related to the activity or program objectives.
Sensitisation	rendering a person sensitive to a substance causing an allergic response in that person.
Spina bifida	a congenital condition that involves the meninges of the spinal cord and may cause a number of disabilities.
Synthetic rubber	an elastic material derived from processing petroleum based products into a rubber like compound.
Type I hypersensitivity	also known as IgE-mediated or immediate hypersensitivity, is due to an allergic reaction mediated by IgE antibody. Common examples of this are allergic rhinitis, asthma, urticaria and anaphylaxis.
Type IV hypersensitivity	Type IV hypersensitivity also known as delayed type hypersensitivity refers to a reaction mediated by T cells. A common example is allergic contact dermatitis.
Urogenital	of or relating to the urinary and genital organs and their functions.
Urticaria	known as 'hives'; characterised by transient, pruritic, oedematous wheals or erythematous papules.

## Appendix B: Latex-Free Clinical Equipment

This list is intended to provide examples of latex-free products and brands. NSW Health does not necessarily endorse the products listed and Health Services need to evaluate products for suitability for their own purposes.

Product ranges frequently change, therefore, regular checking with manufacturers is essential. For further information regarding items on the NSW Government Contract, contact the Health Services stores/supply officer.

The Therapeutic Goods Administration maintains a register of all medical devices supplied in Australia and may be able to assist in this matter depending on the information required.

LATEX CONTAINING	LATEX-FREE
Latex Gloves	Ansell Dermaprene Baxter Duraprene J&J Allergard Vinyl Exam Gloves Plastic Exam Gloves
<u>Monitoring Equipment</u>	
Oximeter Probes	Datex Ohmeda
BP Cuff Leads	Protect limb with clothing or cotton bandage Critikon Soft Cuffs
ECG Dots	Medtel 3M Kendall
Pulmonary Artery Catheters	No alternatives. Risks and benefits to be assessed on an individual basis.
<u>IV Equipment</u>	
Latex Bungs	Braun Reflux Valves 3 Way Taps AstraZeneca Septodent
IV Line	Braun line with reflux valves Smith and Nephew (alternatively, replace latex bungs prior to running IV fluid through line)
Fluid Bags	Remove or tape latex port
Colloids – Haemaccel	Albumex 5
Drugs may have latex stoppers	Remove all stoppers
Emergency Drugs	IMS Minjet drugs
Syringes	Terumo

<u>Airway Equipment</u>	
Resuscitators	Laedal MR 100 Smith
Face Masks	King Systems Promedica Rusch Smith
Rebreathing Bag	Preomedica Rusch
Oral Airways	Mallinckrodt Rusch Promedica Smith Laryngeal mask
Nasopharyngeal Airways	Smith Rusch
Bite Block	Smith
ETT	Rusch Mallinckrodt Portex
Tracheotomy Tube	Smith Rusch
Catheter Mount	Mallinckrodt Promedica
Smooth Bore Tubing	Fisher & Paykel Promedica Bain Circuit
Ventilator Bellows	Ohmeda
Fibre-optic Scopes	Olympus Pentax
Urinary Catheters	Bard Cook

Tapes	<p>           Micropore            Transpore 3M            Microfoam            Steristrips            Hypafix Smith &amp; Nephew            Albupore            Tensoplaste         </p>
Dressings	<p>           3M Tegaderm (dressing only)            Smith &amp; Nephew – Opsite            Air Strip         </p>
Esmarch Bandages	
Drains – Penrose	<p>Jackson Pratt</p>
Dilators	<p>Zimmer</p>
Bulb Syringes	
Instrument Mats	
Embolectomy Catheters	
Intra-aortic Ballons	
Teeth Protectors	<p>No alternatives. Risks and benefits to be assessed on an individual basis</p>

## Appendix C: Sample Diagnostic Checklist for the Identification of Health Care Workers at Risk of Latex Allergy<sup>2</sup>

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This questionnaire can be administered by a health care professional or self administered by the employee. If self-administered, a health care professional should go through the questionnaire answers with the employee to ensure that all questions were understood.

Tick (✓) where appropriate – give details

1. **HAVE YOU EVER BEEN DIAGNOSED WITH LATEX ALLERGY?**
2. **HAS ANYONE IN YOUR IMMEDIATE FAMILY (E.G. PARENT, BROTHER OR SISTER) SUFFERED FROM HIVES, HAYFEVER OR ASTHMA?**
3. **DO YOU WORK IN AREAS OF THE HEALTH SERVICE WHERE YOU WOULD BE EXPOSED TO LATEX PRODUCTS ROUTINELY?**
  - Operating theatres/rooms
  - Ambulance
  - Dental
  - Procedure rooms (eg. cardiac catheterisation laboratories)
  - Emergency department
  - Intensive care or other related critical areas
  - Cleaning
  - Food handling
  - Laundry
  - Pathology laboratories/services
  - Environmental waste collection and management
  - Pharmacy
  - Morgues
  - Other areas where latex gloves and products are used (please specify) \_\_\_\_\_
4. **HAVE YOU HAD:**
  - Multiple operations
  - Catheterisation
  - Other medical procedures (please specify) \_\_\_\_\_
5. **HAVE YOU EVER SUFFERED FROM?.**
  - Hives

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<sup>2</sup> "Australian Society of Clinical Immunology and Allergy"

- Hayfever
- Allergic Conjunctivitis/Rhinitis
- Unexplained Rash
- Bronchitis
- Eczema
- Sinus Problems
- Asthma
- Anaphylaxis (please specify cause if known)\_\_\_\_\_

  
  
  
  
  
  
  


**6. HAVE YOU EVER HAD A SKIN REACTION AFTER USING:**

- Band-aids
- Elastoplast
- Any Sticky Plaster
- Clothing With Elastic (eg. bra, underpants)

  
  
  


**7. HAVE YOU EVER HAD A REACTION AFTER HANDLING OR USING:**

- Balloons
- Poinsettia Plants
- Rubber Products
- Condoms
- Diaphragms

  
  
  
  


**8. AFTER GOING TO THE DENTIST, HAVE YOU EVER SUFFERED FROM:**

- Itching
- Itchy watery eyes
- Facial swelling
- Throat or tongue swelling or discomfort
- Running nose
- Breathing difficulties

  
  
  
  
  


**9. HAVE YOU EVER HAD A REACTION AFTER EATING:**

- Avocados
- Chestnuts
- Kiwi Fruit
- Bananas
- Other foods (please specify)\_\_\_\_\_

## Appendix D: Sample Diagnostic Checklist for the Identification of Health Consumers at Risk of Latex Allergy<sup>3</sup>

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It is suggested that the patient questionnaire be administered by a health care professional. The questions can be incorporated into pre-admission questionnaires or other pre-service provision procedures.

Tick (✓) where appropriate – give details

- |  |                          |
|--|--------------------------|
| <b>1. HAVE YOU EVER BEEN DIAGNOSED WITH LATEX ALLERGY?</b>   | <input type="checkbox"/> |
| <b>2. HAS ANYONE IN YOUR IMMEDIATE FAMILY (E.G. PARENT, BROTHER OR SISTER) SUFERED FROM HIVES, HAYFEVER OR ASTHMA?</b> | <input type="checkbox"/> |
| <b>3. DO YOU WORK IN AN INDUSTRY WHERE YOU WOULD BE EXPOSED TO LATEX PRODUCTS ROUTINELY?</b>                           |                          |
| • Emergency services   | <input type="checkbox"/> |
| • Dental clinics   | <input type="checkbox"/> |
| • Cleaning   | <input type="checkbox"/> |
| • Waste management   | <input type="checkbox"/> |
| • Food handling  | <input type="checkbox"/> |
| • Funeral services/morgues   | <input type="checkbox"/> |
| • Community services   | <input type="checkbox"/> |
| • Product manufacturing  | <input type="checkbox"/> |
| • Laundry  | <input type="checkbox"/> |
| • Pathology laboratories/services  | <input type="checkbox"/> |
| • Environmental waste collection and management  | <input type="checkbox"/> |
| • Pharmacy   | <input type="checkbox"/> |
| • Other areas where latex gloves and products are used (please specify)_____   | <input type="checkbox"/> |
| <b>4. HAVE YOU HAD:</b>  |                          |
| • Multiple operations  | <input type="checkbox"/> |
| • Catheterisation  | <input type="checkbox"/> |
| • Other surgical procedures (please specify)_____  | <input type="checkbox"/> |
| <b>5. HAVE YOU EVER SUFFERED FROM?.</b>  |                          |
| • Hives  | <input type="checkbox"/> |
| • Hayfever   | <input type="checkbox"/> |

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<sup>3</sup> "Australian Society of Clinical Immunology and Allergy"

- Allergic Conjunctivitis/Rhinitis
- Unexplained Rash
- Bronchitis
- Eczema
- Sinus Problems
- Asthma
- Anaphylaxis (please specify cause if known)\_\_\_\_\_

**6. HAVE YOU EVER HAD A SKIN REACTION AFTER USING:**

- Band-aids
- Elastoplast
- Any Sticky Plaster
- Clothing With Elastic Spandex (eg. bra, underpants)

**7. HAVE YOU EVER HAD A REACTION AFTER HANDLING OR USING:**

- Balloons
- Poinsettia Plants
- Rubber Products
- Condoms
- Diaphragms

**8. AFTER HAVING DENTAL PROCEDURES, HAVE YOU EVER SUFFERED FROM:**

- Itching
- Itchy watery eyes
- Facial swelling
- Throat or tongue swelling or discomfort
- Running nose
- Breathing difficulties

**9. HAVE YOU EVER HAD A REACTION AFTER EATING:**

- Avocados
- Chestnuts
- Kiwi Fruit
- Bananas
- Other foods (please specify)\_\_\_\_\_

# Appendix E: Guidelines for the Management of People with Latex Allergy<sup>4</sup>

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## Preparation of a Latex Safe Environment.

### **WHAT EQUIPMENT HAS LATEX IN IT**

Latex is a component of a large number of medical devices. At present there is no mandatory labelling and so considerable effort is required to keep an up-to-date record of latex-free medical equipment.

### **GLOVES**

These are the most likely to cause serious reactions, especially if they contact mucous membranes (BMJ 1994; 308:246-247).

All latex gloves need to be removed from the immediate area of the patients.

Synthetic gloves must be used for all procedures. Neoprene gloves are available in sterile gloves and are latex-free. Vinyl and nitrile are synthetic gloves now available for use as examination gloves.

### **AS A GENERAL GUIDE THE FOLLOWING NEED TO BE CHECKED:**

- surgical drains, urinary catheters, condom drainage, anti-embolic stockings, bougie dilators, tourniquets, dental dams, embolectomy catheters
- monitoring: BP leads, oximeters, ECG dots, pulmonary artery catheters, IV lines and infusion bags
- latex stoppers in ampoules
- plungers in some syringes
- catheter leg bags straps
- mattresses
- dressings, 'Elastic' bandages, skin adhesives
- feeding nipples and tubes

## Wards

### **WARD PREPARATION**

Nurse in charge of the ward ensures the guidelines are followed.

STEPS 2, 3, 4, ARE NOT NECESSARY IF THE FACILITY DOES NOT USE ANY LATEX GLOVES.

1. Synthetic gloves must be used.

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<sup>4</sup> "Australian Society of Clinical Immunology and Allergy"

2. Prepare a single room, where possible, at least 3 hours before patient admission.
3. All equipment and furniture to be damp-dusted to remove latex powder.
4. For the duration of the patient's admission, the entire ward must use only powderless latex gloves to avoid contaminating the patient area with latex powder.
5. The prepared room must have signs attached to all entrances to ensure a latex safe area.
6. All procedures must be planned where possible
7. Be prepared to treat serious reactions

The following procedures need planning:

1. blood taking: synthetic gloves, tourniquet over clothing
2. inserting IV cannulation
3. administering IV, IM, SC drugs: see below
4. bladder catheterisation: synthetic gloves and non-latex catheter
5. internal examinations: synthetic gloves.

Where possible perform procedures within prepared ward environment.

Ensure other departments are aware of the patient's latex allergy if the patient has to go to another area for investigations during admission.

#### ***MONITORING***

1. Oximeter probe may contain latex, but can be used over vinyl glove or a clear dressing.
2. Arm for BP measurement must be covered to protect skin from BP leads.
3. ECG dots may contain latex in the adhesive.
4. Stethoscopes may contain latex in the tubing, ear pieces and bell.

Pulmonary artery catheters contain latex in the balloon and there has been a case reported of anaphylaxis to such a device (Anesthesiology 1995; 92:220-221). At present there are no non-latex alternatives and risks and benefits must be weighed up on an individual basis.

#### ***IV LINES AND DRUGS***

1. Synthetic gloves must be used.

2. Use an IV line without latex ports, or if using a line with latex ports they must be removed and replaced with reflux valves, **prior** to running through IV fluid. There is a case report of anaphylaxis to an IV line where this was not done (J Allergy Clin Immunology 1993; 92:358-359).
3. Infusions to be made up by injection through giving set port of IV fluid bags rather than through rubber bung, which is not in contact with the fluid and can be removed.
4. Do not use colloids with latex bungs.
5. Latex-free syringes should be used.
6. No drugs to be drawn up through rubber bungs.
7. No drugs to be given where there is a rubber stopper within the vial (Aneast Anal 1995; 80:1057-1-58).
8. Only latex-free IV dressings and skin tapes.

**RESUSCITATION  
EQUIPMENT**

In general resuscitation equipment purchased by hospitals should be latex-free where this is possible. All resuscitation trolleys should routinely have latex-free gloves and latex-free circuits, masks, catheter mount, oral airways.

**ENVIRONMENTAL  
SERVICES AND FOOD  
SERVICES STAFF**

Environmental and food services staff must be made aware of the location of latex allergic patients so that they do not use latex gloves when cleaning or preparing food.

Ensure food allergies are observed when preparing food.

**Operating Suites**

The nurse in charge of the operating room is to ensure the guidelines are followed.

Follow preceding guidelines for the general ward.

**PREPARATION OF  
OPERATING ROOM**

**STEPS 2, 3, 4 ARE NOT NECESSARY IF THE OPERATING SUITE DOES NOT USE POWDERED LATEX GLOVES.**

1. Synthetic gloves must be used.
2. Ideally latex sensitive patients should be scheduled first on the morning operating list.

**PATIENTS MUST ONLY BE OPERATED ON IN A CLEAN ROOM IE FREE OF POWDERED LATEX GLOVES FOR AT LEAST 3 HOURS**

3. Furniture and equipment in the operating room must be washed down by staff wearing synthetic gloves to remove latex powder.

4. From the time of the preparation of the operating room staff traffic should be limited and all staff entering the operating room should change into clean clothes and thoroughly wash their hands to remove latex powder.
5. The operating room must have signs attached to all entrances to ensure latex safe area.
6. Operating room table mattress and arm boards must be completely covered in linen
7. The patient's limb must be covered prior to applying tourniquet.

***STERILE SETUP.***

**Step 2 is not necessary if the operating suite does not use any powdered latex gloves.**

1. Synthetic gloves must be used.
2. The sterile trolleys must be set up in the operating room rather than in the core to prevent latex powder contamination.
3. The latex-free product list must be consulted to ensure all equipment used is latex-free.

***ANAESTHETIC EQUIPMENT***

1. Synthetic gloves must be used.
2. Latex-free anaesthetic circuit, masks, rebreathing bag, common gas outlet tubing, licorice sticks (catheter mount), oral airways, must be connected or available.

***TRANSFER OF PATIENT***

Step 4 is not necessary if the institution does not use any powdered latex gloves

1. Synthetic gloves must be used.
2. Only when the operating room is fully prepared and checked is the patient sent for.
3. The patient must wear a balaclava with ties not elastic, and no other disposable clothing with plastic.
4. Patients must be brought straight from their room to the anaesthetic room and not placed in a holding area, which may be contaminated with latex powder.

***OPERATIVE PERIOD***

**Steps 2, 3 are not necessary if the operating suite does not use any powdered latex gloves.**

1. Synthetic gloves must be used.

2. During the patient's stay in the operating suite **all** the staff entering the operating room should change into clean clothes and thoroughly wash their hands. All staff should remain in the operating room for the duration of the case.
3. Staff should be available outside the operating room to collect and deliver any extra equipment that may be required, remembering not to wear latex gloves or touch any latex products during this time.

**RECOVERY**

STEPS 2, 3 ARE NOT NECESSARY IF THE OPERATING DOES NOT USE ANY POWDERED LATEX GLOVES.

1. Synthetic gloves must be used.
2. The patient should be recovered in the operating room, or anaesthetic room, to reduce possible contamination with latex powder from staff in adjacent operating rooms.
3. Recovery staff entering the operating room, or anaesthetic room, should change into clean clothes and thoroughly wash their hands to remove latex powder.
4. Facemask elastic should be removed and replaced with cotton tape.
5. When the patient is returned to the ward, the recovery staff must ensure the ward staff are aware of the patient's latex allergy and that the patient is returning to an environment which has been prepared.

**Consulting room preparation**

**Steps 2, 3 are not necessary if the surgery/consulting rooms do not use any powdered latex gloves.**

1. Synthetic gloves must be used.
2. Prepare consulting room, where possible, at least 3 hours before patient admission. Sensitive patients should be seen first patient of the day and the room prepared the night before.
3. All equipment and furniture to be damp-dusted to remove latex powder.
4. The prepared room must have signs attached to all entrances to ensure a latex safe area.
5. All procedures must be planned.
6. Be prepared to treat serious reactions.

**CONSULTING ROOM PROCEDURES**

1. Blood taking: synthetic gloves, tourniquet over clothing.
2. Suturing/minor surgery: synthetic gloves.

3. Internal examinations: synthetic gloves.
4. Giving IV, IM, SC drugs: see below.
5. Inserting IV: see below.
6. Bladder catheterisation: synthetic gloves and non-latex catheter

Where possible undertake procedures within prepared environment.

#### **MONITORING**

1. Arm for BP measurement must be covered to protect skin from BP leads.
2. Stethoscopes may contain latex in the tubing, ear pieces and bell.
3. Oximeter probe may contain latex, but can be used over vinyl glove or a clear dressing.
4. ECG dots may contain latex in the adhesive.

#### **IV LINES AND DRUGS**

1. Synthetic gloves must be used.
2. Latex-free syringes should be used.
3. No drugs to be drawn up through rubber bungs.
4. No drugs to be given where there is a rubber stopper within the vial (Aneast Anal 1995; 80:1057-1-58).
5. Use an IV line without latex ports. If using a line with latex ports they must be removed and replaced with reflux valves, **prior** to running through IV fluid. There is a case report of anaphylaxis to an IV line where this was not done (J Allergy Clin Immunology 1993; 92:358-359).
6. Preparation of infusions by injection through a set port of IV fluid bags rather than through a rubber bung, which is not in contact with the fluid and can be removed.
7. Do not use colloids with latex bungs.
8. Only latex-free IV dressings and skin tapes

#### **RESUSCITATION EQUIPMENT**

Resuscitation equipment purchased by hospitals should be latex-free where this is possible. All resuscitation trolleys should routinely have powderless latex gloves, and non-latex gloves readily available when a latex allergy patient is in that area. When there is a patient with a latex allergy in an area the following must be available:

- Synthetic gloves; and
- Latex-free circuits, masks, catheter mount, oral airways.

***REFERRALS AND  
INVESTIGATIONS***

Ensure whenever the patient is referred to other doctors and paramedical professionals, they are informed of the patient's latex allergy and its significance.

If the patient has to go for investigations, notify the pathology, or radiology service to ensure they are aware of the patient's condition and its significance and how to manage the patient.

## Appendix F: Guidelines to Promote Safe Practice in the Dental Environment for Latex Allergic Patients<sup>5</sup>

### Introduction

- a) Include questions regarding the possibility of latex allergy in your history.
- b) Ensure patient notes and ID bands are suitably identified with latex allergic status.

<b>1. General Dentistry</b>	
a) Dentists/Dental Chairside Assistants	Non-latex gloves (eg. neoprene, nitrile, vinyl) Latex powder-free environment
b) Rubber Dam	Do not use Rubber Dam Can use: Silicone Dam (Roeko products from various dental supply houses)
c) Local Anaesthetic	Use local anaesthetic from plastic ampoules and latex-free syringes. Pre-loaded cartridges – check with manufacturer.
d) Syringes	Many single use syringes are latex-free. Check with manufacturers eg Terumo are latex-free.
e) Mount Props	Use a plastic, disposable mouth prop eg 'Denta-Pops Great Inspirations' from Horseley Dental Company.
f) Eye Protection	Check the bridge piece of glasses for latex containing components.
g) Impression Materials	No contra indications – rubber based impression material are synthetic rubber.
h) Other Dental Products	Polishing disks have a latex backing; probably low risk, use with caution. Rubber 'prophy' polishing cup – use polishing brush.
i) Toothbrushes	Avoid toothbrushes with a rubber interdental pic and rubber handles.

<sup>5</sup> "Australian Society of Clinical Immunology and Allergy"

<b>2. Specialist Dentistry</b>	
a) Endodontics GP points	GP points are derived from trees in the same botanical family as natural rubber, and there in lies the potential for cross allergenicity. This problem has been highlighted by a report, which emphasises the problems with over filling root canals with GP points. If one can guarantee there is no over filling with GP then it can be used, however the potential for over filling and resulting allergic response must be remembered (J Allergy Clin Immunol 1994 93:943-4).
Rubber Stoppers on endodontic files	Measure with a tweezer grip or make an informed assessment of risk.
b) Orthodontics	Check headgear components for latex containing items.  Elastic/surgical ligatures and power chain may be a problem – check with manufacturer. As alternative, use wire ligatures.  Check for rubber grips and on ortho wire cutters, band removers and band placers.

<b>3. Specialist Dentistry</b>	
a) Scheduling	Schedule latex allergic patients first in the morning to lessen their exposure to air borne latex particles.
b) Anaesthesia Personnel	The anaesthetist and anaesthetic nurse must be advised well in advance of the scheduling of latex allergic patients.
c) Theatre Staff	All theatre staff to wear non-latex gloves.
d) Gloves	Ansell Dermaprene Baxter Duraprene J&J Allergard
e) Masks	Non-latex masks are to be used in all situations. (King System, Promedica, Rusch, Smith)
f) IV Equipment	
Latex Bungs	Braun Reflux Valves 3 Way Taps
IV Line	Braun line with reflux valves Smith OR replace latex bungs prior to running IV fluid through line
Fluid Bags	Remove or tape latex port
Colloids – Haemaccel	Albumex 5
Drugs may have latex stoppers	Remove all stoppers
Emergency Drugs Solu Cortef 250mg	IMS Minjet drugs Use 100mg vial and remove stoppers

Syringes	Terumo
g) Gas Tubing	Examples of non-latex circuits are Fisher & Paykel, Promedica, Bain Circuit.
h) Reservoir Bag	Use non-latex alternative. (King, Promedica, Rusch)
i) Mouth Props	Plastic 'Denta-Pops Great Inspirations' from Horseley Dental Company.
j) Monitoring	
Oximeter Probes	Datex, Ohmeda are latex-free OR place vinyl glove over finger or toe
BP Cuff Leads	Protect limb with clothing or cotton bandage Critikon Soft Cuffs
ECG Dots	Medtel 3M Kendall
k) Post-Op	Similar precautions to the operating room as listed above.
l) IV Sedation	The same precautions apply as for general anaesthesia
m) Emergency/Resuscitation Equipment	Similar precautions to the O. R.

#### Notes:

1. Susceptible children or children with susceptible parents, are not to be given balloons at the end of the session.
2. For OMFS please also refer to Operating Suite Guidelines.

All recommended products are available in Australia – check with your local supply company.

## Appendix G: Advice for Latex Allergic Individuals<sup>6</sup>

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<b>What is natural rubber latex?</b>	Natural rubber latex is a particular kind of rubber that is manufactured from the sap of rubber trees. It is used to manufacture various consumer products.
<b>What is 'latex allergy'?</b>	A 'latex allergy' is an allergy to products made from the natural rubber latex. This is different from a 'rubber allergy' which is an allergy to the chemicals found in manufactured natural rubber latex products. If you are found to have a 'rubber allergy' you may require referral for patch tests.
<b>Who suffers from latex allergy?</b>	People most at risk of having or developing a latex allergy are those who have other allergies (such as hay fever, asthma) and regularly use natural rubber latex products (such as latex gloves) in their every day occupation (eg. physicians, nurses, dentists, dental hygienists & dental assistants) or if multiple operations have been experienced early in life (say for spina bifida).
<b>What are the symptoms of latex allergy?</b>	Latex allergy often begins with a rash on the hands when using natural rubber latex gloves. Other symptoms include hay fever type reactions such as itchy swollen eyes, runny nose and sneezing. Some patients may develop asthma symptoms such as chest tightness, wheezing coughing and shortness of breath.
<b>How are latex and rubber allergies identified?</b>	People at risk or with symptoms of possible latex allergy should be tested with a latex skin prick test by an allergy specialist or undergo a blood test which will detect specific antibodies to latex.
<b>Can my allergy get worse?</b>	There is evidence that the more you are exposed to latex, the more allergic you may become. If you only have a minor latex allergy, you should minimise your exposure to latex so that you do not risk becoming more sensitive.

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<sup>6</sup> "Australian Society of Clinical Immunology and Allergy"

**Can a latex allergy be life-threatening?**

While it is uncommon, some latex allergic individuals can suffer a potentially life threatening allergic reaction (called anaphylactic shock) when they come in to contact with natural rubber latex. Some situations in which anaphylactic shock can occur include, when blowing up a balloon, during dental surgery or any other surgical procedure, when using a condom, during the examination of the vagina, rectum or colon, and the administration of an enema.

Anaphylactic shock occurs within minutes of exposure, especially following direct contact with natural rubber latex products (e.g. after touching mucous membranes with latex). Anaphylaxis may also occur by indirect contact such as inhaling glove powder particles.

It is characterised by generalised hives, breathing difficulties and low blood pressure. The reaction may be fatal and must be promptly treated by an injection of adrenalin.

**Is there a relationship between latex allergy and other allergies?**

People who are sensitive to other substances (atopic) are more likely to develop latex allergy. This includes people with atopic eczema.

It has been found that there is a strong cross reactivity between certain foods and latex allergy. The foods with the strongest reaction are bananas, avocados and kiwi fruit. Other foods include pawpaws, mangoes, apples, oranges peanuts, potatoes etc. All these foods contain a common substance. If you experience tingling, itching or discomfort in the mouth or throat whilst eating these foods, you must cease eating these foods. However, we believe it is not necessary to avoid these foods until sensitivity develops. This is a subject of continuing research.

**Can latex allergy be treated?**

No treatments are yet available to cure natural latex allergy. The best 'treatment' is to avoid exposure to latex. Medications are available to temporarily alleviate symptoms.

**What precautions should patients with latex allergy take?**

- ❑ You need to avoid **all** latex products. The biggest risk comes from contact with rubber gloves, not just in the medical or dental setting. Balloons, household gloves, gardening gloves, many adhesives and condoms can cause a severe reaction if you use them.
- ❑ Please tell your doctor or dentist about your 'latex allergic status' when asked about 'drug allergy'. Remember to inform anyone else likely to perform a procedure on you (even your hairdresser!).
- ❑ Wear a 'Medic Alert' disc and carry a letter of explanation from your allergy specialist.
- ❑ Have a first aid kit available. Epipen is a safe and easy form of self-injectable adrenaline, but remember to keep a check on the expiry date

- ❑ Carry your own supply of non-latex gloves. Don't rely on others to have them in an emergency. They must be used when you have any procedure – pap smear, dental work, blood collection etc.
- ❑ Any surgical procedure needs to be carefully planned. Your anaesthetist and surgeon will need to be aware of your problem well before the date of the operation, so the operating theatre may be specially prepared.
- ❑ Condoms are made from latex and cannot be safely used. Unfortunately there are no latex-free condoms yet available in Australia.
- ❑ If you are a health care worker (doctor, dentist, nurse etc) you need special consideration in the workplace in order to avoid exposure to latex. The biggest problem for you is airborne latex particles, which arise as a result of powdered gloves use. All other staff in your work area will need to wear non-powdered gloves. Your special requirements will need to be discussed with the management team.

(Prepared with the assistance of Mrs Moira Bryant, Health Link, Westmead Hospital)

## Appendix H: Latex Allergy Information for New Employees<sup>7</sup>

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### **The following steps should be taken by workers to protect themselves**

1. Use non-latex gloves for activities that are not likely to involve contact with infectious materials (food preparation and housekeeping etc).
2. Appropriate barrier protection is necessary when handling infectious material. If you choose latex gloves, use powder-free with reduced protein content; such gloves reduce exposure to latex protein and thus reduce risk of latex allergy (although symptoms may still occur in some workers).
3. Use appropriate work practices to reduce the chance of latex reactions. When wearing latex gloves, do not use oil-based hand creams or lotions unless they have been shown to reduce latex problems. After removing latex gloves, wash hands and dry thoroughly.
4. If you develop symptoms avoid direct contact with latex products and see a physician experienced in latex allergy. Carefully follow your physician's instructions for dealing with allergic reactions to latex.
5. If you have latex allergy: avoid contact with latex products; avoid areas where you might inhale powder from latex gloves worn by others; tell your employer that you have a latex allergy; and wear a Medic Alert bracelet. It must be stressed that it is best to treat early to prevent the sensitisation to latex becoming too severe.

(Adapted from recommendations of the US National Institute for Occupational Safety and Health, 1997)

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<sup>7</sup> "Australian Society of Clinical Immunology and Allergy"