HSE Policy on the Prevention and Management of Latex Allergy 2022

Is this document a:

Policy [√] Procedure [ ] Protocol [ ] Guideline [ ]

Insert Service Name(s), Directorate and applicable Location(s):

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2	August 2022	The Policy has been written in line with the HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs) 2016	NHSF
2	August 2022	Part A: Introduction	NHSF
2	August 2022	2.0 Risk Assessment Process – Reference to GD004 Guidance on completion of Occupational Health and Safety Risk Assessments	NHSF
2	August 2022	2.4 Assess and Rate the Risk	NHSF
2	August 2022	Inserted section 3.0 Monitoring and Periodic Review	NHSF

2	August 2022	Inserted section 4.0 Communication and Notification of Risk	NHSF
2	August 2022	5.0 Information, Instruction and Training	NHSF
2	August 2022	6.0 Health Surveillance	NHSF
2	August 2022	7.0 Incident Management	NHSF
2	August 2022	8.0 Aligned to the Corporate Safety Statement	NHSF
2	August 2022	Appendix III Specific Procedures- Patients and Clients with identified/suspected latex allergy Section 1.0 General Procedures – inserted new 1.13 Section 9.0 Anaesthesia- updated section 9.4	NHSF
2	August 2022	Appendix VII Products containing Latex – included additional products	NHSF
2	August 2022	Part B – Developed in line with the National PPPG Framework	NHSF

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Part A:

1.0 Introduction:

Natural rubber latex (NRL) can be found in many products used in health and social care. It has been extensively used in the manufacture of medical gloves (non-sterile examination gloves, surgical gloves) because it is a very durable and flexible material giving wearers a high degree of dexterity, sensitivity and microbiological protection. Powdered NRL gloves have higher latex allergen content than powder free NRL gloves and there is good evidence that the use of powdered NRL gloves is associated with a substantially higher prevalence and rate of latex sensitisation.

NRL is not only contained within single-use disposable gloves, but can also be found in a number of medical products, such as catheters, elasticised bandages, wound dressings etc. It is also in the packaging for a number of medical products. While these may pose a low risk of sensitisation, they can pose a significant risk (e.g. anaphylactic shock) to sensitised individuals, either patients or healthcare workers (HCWs).

Latex allergy can be prevented and managed by undertaking a risk assessment, putting suitable control measures in place, and maintaining and reviewing the effectiveness of control measures.

2.0 Risk Assessment Process

In order to minimise the risk from natural rubber latex (NRL), risk assessments must be undertaken to ensure that the exposure of HCWs and patients to NRL is avoided where reasonably practicable, and adequately controlled in all other circumstances.

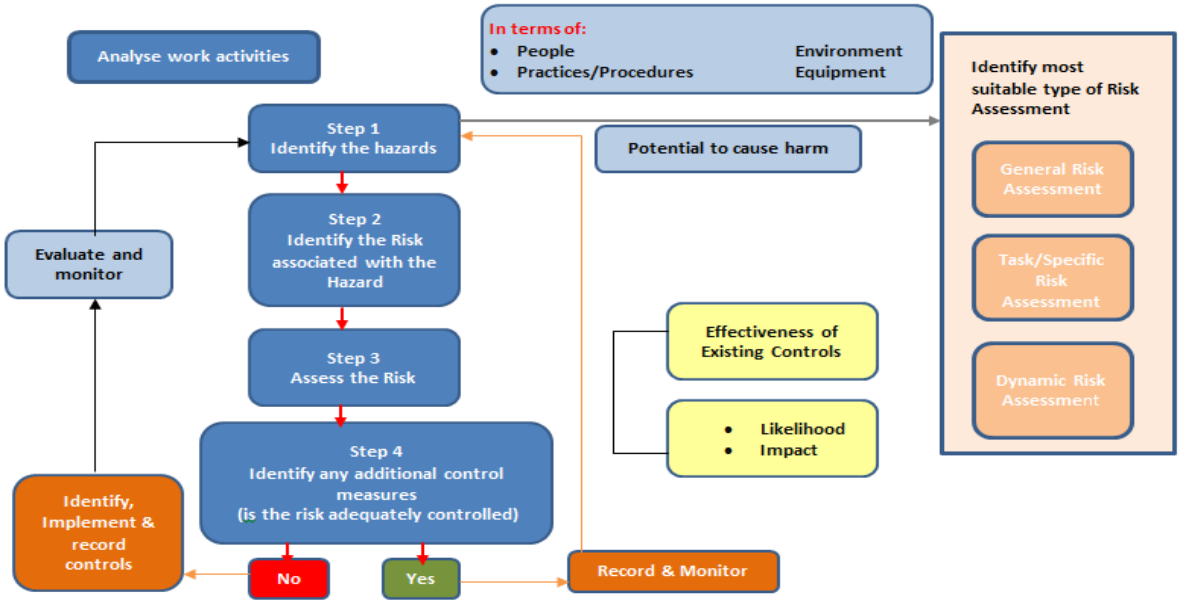
This section summarises the HSE's general risk control programme for NRL allergy and is supported by a number of appendices which give detailed procedures and guidelines.

The general risk control programme takes account of the general principles of prevention outlined in Schedule 3 of the *Safety, Health and Welfare at Work Act 2005*.

For further guidance on how to complete a risk assessment on the Prevention and Management of Latex Allergy, refer to *GD: 004 Guideline Document* Completion of Occupational Safety and Health Risk Assessments.

The risk assessment process is summarised in Figure 1 below.

Figure 1. Risk Assessment Process



2.1 Identify the Hazard

2.1.1 Identify the Hazard: E.g. use of latex gloves or latex containing products.

2.2 Identify the Risk

2.2.1 Where the hazard cannot be avoided:

- Identify particular latex allergy risk groups (Refer to Part A, Appendix V), e.g. spina-bifida/genito-urinary abnormalities/paraplegics, patients who have had multiple surgeries and health care workers with atopy
- Identify patients with latex allergy (note there are several types of allergy with varying levels of risk and seriousness, refer to Part A, Appendix I. The patient latex allergy screening tool provided in Part A, Appendix VI, may assist the clinician in identifying the risks)
- Allergies in new HCWs are identified through pre-employment checks, including allergy questions on pre-employment health questionnaire
- Existing healthcare workers are educated to recognise symptoms and to self-report

2.3 Identification of the Control Measures

2.3.1 Control Measures include:

2.3.1.1 Collective Measures:

- Use NRL free products where reasonably practicable
- Implement guidelines on latex use (Refer to Part A, Appendices II, III and IV)
- Consider providing latex safe (so far as is reasonably practicable) facilities e.g. designated Ward, Department Section and/or Theatre

- Availability of an appropriate evidence-based health surveillance programme administered by the Occupational Health Department (Based on Laney, 1998) E.g.:
    - Primary prevention – Provide information to healthcare workers in relation to latex allergy and assess those with potential symptoms
    - Secondary and tertiary care – Follow-up for HCWs diagnosed with latex allergy as appropriate
- Provision of appropriate information, instruction, training and supervision
- Communication with other care givers: e.g. Allergy information to travel with patient to facilitate the implementation of preventative measures and procedures

2.3.1.2 Adapt to Technical Progress/Find a Replacement (safe or less dangerous substitute):

- Ongoing substitution program for latex products
- Products are to be standardised across the HSE where practicable
- Procurement to support the identification and substitution of NRL products where practicable
- Use of powder-free low protein latex gloves which is a proven effective method of reducing the incidence of latex allergy. The scientific evidence does not support a complete ban on the use of latex gloves (Power et al, 2010)

2.3.1.3 Individual Measures:

- NRL avoidance (workplace and work equipment/products and systems of work, for theatre patients) for HCWs/patients with NRL allergy
- Treatment of anaphylaxis (Refer to Part A, Appendix III, 1.12)
- Post-operative follow-up

2.4 Assess and Rate the Risks

2.4.1 The next steps are to:

A. Identify and document the existing control measures and
B. Assess and rate the risk associated with the hazard taking into account any existing control measures.

The likelihood and impact will depend on the control measures already in place, how effective they are, the experience, knowledge and skill of the employee(s) undertaking the task, the system of work and the available resources.

Most benefit in terms of primary prevention of latex allergy will be achieved by reducing the overall exposure burden to bioavailable latex. This is best achieved by eliminating the use of latex products where this is reasonably practicable, and by substituting them with non-latex alternatives. Where no suitable alternatives exist then minimising exposure by the use of less bioavailable latex products could be considered except in the case of diagnosed latex allergy in which case avoidance of latex is recommended.

Based on a consideration of the above factors, a numerical likelihood rating and impact rating should be selected from the Risk Assessment Tool.

2.5 Identify any additional control measures required

2.5.1 This involves identifying whether it is reasonably practicable to do more to eliminate or reduce the risk.

3.0 Monitoring and Periodic Review

Once control measures have been introduced, they must be evaluated on a regular basis to assess their effectiveness and ensure they are achieving the desired result. This should be proactive to include audits/workplace inspections, analysing local performance indicators, and reactive following an incident.

In line with Section 19 (3) of the Safety, Health and Welfare at Work Act, 2005 risk assessments must be reviewed where:

(a) There has been significant change in the matters to which they relate
(b) There is another reason to believe they are no longer valid

Examples include: when new procedures, new equipment, technology or personnel are introduced.

It is best practice and HSE policy, to review risk assessments at least annually.

4.0 Communication and Notification of Risk

Where additional resources are required for the control of a hazard and such resources are not immediately available, the risks associated with the hazard should be incorporated onto the relevant risk register and prioritised for action or notified to the next level. In the interim the risk will continue to be managed and monitored so far as is reasonably practicable at local level and the relevant manager informed of any changing circumstances[1].

5.0 Information, Instruction and Training

HCWs must be provided with the necessary information, instruction and training to enable them to prevent and manage the risk associated with NRL. Information, instruction and training should include:

1. Latex allergy and how to protect against it.
2. Hand hygiene and skin care.
3. Reporting signs of latex allergy.

Please refer to Appendix IV Specific Procedures - HCWs (Prevention and Management of Latex Sensitisation) for further information.

6.0 Health Surveillance

Health surveillance for HCWs is an important part of the control of risk and is a form of secondary prevention. The level of surveillance will depend on the residual risk after control measures have been put in place**.** Typically clinical records associated with health surveillance are kept in the occupational health department.

For Health care workers identified as potentially requiring health surveillance for Latex Allergy:

- Manager should refer to Occupational Health for assessment
- Occupational health will provide information to HCW as required
- Appropriate health surveillance will be put in place if recommended

[1] HSE, (2017), Integrated Risk Management Policy (Part 3, Managing and Monitoring Risk Registers) – Guidance for Managers 2017

7.0 Incident Management

All incidents, must be reported, and managed in accordance with the *HSE Incident Management Framework*. Reporting of incidents should be completed using the appropriate National Incident Report Form (NIRF).

In the event of an incident, the line manager should:

- Carry out a timely assessment of the situation to establish the safety, health and welfare of employees and service user(s) as situationally appropriate
- Provide appropriate support to those involved.

As part of the post incident review the line manager should:

- Review the incident with employee(s) involved
- Review the effectiveness of the risk assessment and control measures
- Contact relevant clinicians or others where appropriate
- Advise on follow up support as appropriate.

Consideration on referral to and or advice from Occupational Health

- As part of risk assessment, employees and prospective employees may be referred to Occupational Health Department (OHD) for assessment and advice when symptoms suggestive of NRL allergy are identified
- As part of incident management, employees may be referred to OHD for assessment and advice.

8.0 Roles and Responsibilities

8.1 Chief Executive Officer (CEO)

The CEO, has overarching responsibility to ensure, so far as is reasonably practicable the safety, health and welfare at work of all HCWs and others affected by HSE activities by:

8.1.1 Ensuring the development of and compliance with this Policy.

8.1.2 Delegating operational responsibility for the day-to-day discharge of statutory duties under the *Safety, Health and Welfare at Work Act, 2005* to the Executive Management Team, Senior Management Team, Extended Senior Management Team, Senior Managers, Local Senior Managers and Line Managers for all matters within their control.

8.2 Senior Managers e.g. Hospital Group Chief Executive Officers, Chief Officers Community Health Organisations, Chief Ambulance Officers, Assistant National Directors Corporate Services

8.2.1 Ensure there are adequate and appropriate arrangements in place for the successful implementation, monitoring, evaluation and audit of this Policy throughout their respective areas of responsibility.

8.2.2 Ensure necessary resources are allocated and are available for the implementation of this Policy.

8.2.3 Integrate performance indicators in relation to implementation of this Policy.

8.2.4 Ensuring the National Procurement process is adhered to and takes account of the need to procure latex free gloves/equipment that help minimise the risk of latex allergy.

8.3 Local Senior Managers e.g. Hospital GM, Heads of Service, Directors of Nursing, Directors of Midwifery

8.3.1 Ensure that all HCWs are aware of and implement this Policy.

8.3.2 Ensure that all hazards and risks to HCWs and patients associated with NRL allergy are identified and assessed, and appropriate measures are put in place to eliminate, control or minimise the risk.

8.3.3 Ensure that risk assessments are undertaken in a written format and form part of the site /service safety statement.
Ensure:

- With regard to gloves and other medical equipment, clothing, etc., that a latex-free alternative is procured and used where reasonably practicable
- If unsure of the latex content of a product, contact local Procurement Department and request they get this information from the supplier

8.3.4 Ensure there is a process in place for the line manager to escalate risks that cannot be managed locally onto the appropriate service risk register while managing the risk as far as is reasonably practicable.

8.3.5 Ensure that HCWs are provided with appropriate information, instruction and training to support implementation of this Policy.

8.3.6 Identify the resources required to implement this Policy.

8.3.7 Ensure that incidents associated with the exposure to NRL are reported and managed in accordance with the *HSE Incident Management Framework*.

8.3.8 Monitor and review the effectiveness of preventative procedures and measures.

8.3.9 Audit the implementation of this Policy.

8.3.10 Provide assurances through respective governance structures that the Policy is being effectively implemented, monitored and audited.

8.4 Line Managers

General responsibilities of Ward/Department/Line Managers are outlined in the local Site/Service Safety Statement and are not reproduced within this Policy (refer to said document for further information). In the context of this Policy on Prevention and Management of Latex Allergy responsibilities are to:

8.4.1 Ensure that adequate and appropriate arrangements are in place to implement, disseminate and communicate this Policy.

8.4.2 Ensure risk assessments (to include the potential for exposure to NRL) for their area of responsibility are completed and reviewed with HCWs and appropriate measures to eliminate, minimise or control the risk implemented to include those outlined in Part A, Appendix II and IV.

8.4.3 Ensure that specific risk assessments are completed for patients and HCWs who are identified as being allergic to NRL and implement any control measures to include those outlined in Part A, Appendix II, III and IV.

8.4.4 Ensure that where risks cannot be managed locally, they are notified and communicated onto the appropriate risk register and prioritised for action while managing the risk as far as is reasonably practicable.

8.4.5 Conduct regular reviews of arrangements to ensure that all measures are effective and continue to meet the requirements to reduce/eliminate potential exposure to NRL.

8.4.6 Ensure HCWs are aware and follow the HSE Guideline for glove selection (adapted from Latex Allergy Support Group (LASG) Guidelines) (now part of Anaphylaxis org.uk) (Refer to Part A, Appendix II).

8.4.7 Ensure that non-latex products are provided, so far as is reasonably practicable, for patients identified with latex allergy.

8.4.8 Consult with procurement department when ordering equipment regarding latex content of products.

8.4.9 Ensure those HCWs responsible for ordering products are aware of those products containing latex (Refer to Part A, Appendix VII).

8.4.10 Periodically check the contents of all emergency carts for latex content and ensure suitable alternatives are procured.

8.4.11 Ensure that HCWs take a proactive approach to recognising latex related health problems (Refer to Part A, Appendix I).

8.4.12 Ensure that HCWs receive information, instruction, training and supervision to enable them to manage the risk of NRL allergy and comply with this policy (Refer to Part A, Appendix IV).

8.4.13 Ensure that HCWs read and sign that they have read and understand the Policy.

8.4.14 Take cognisance of other related policies as appropriate.

8.4.15 Be aware of the range of employee support services available and advise employees of the services/supports available to them.

8.4.16 Refer HCWs who appear to have symptoms suggestive of NRL allergy to the local Occupational Health Department.

8.4.17 Report NRL allergic reactions suffered by patients/HCWs in line with the *HSE Incident Management Framework*.

8.4.18 Audit implementation of this Policy.

8.5 Surgeons and Anaesthetists

8.5.1 Ensure that a history of allergies including latex allergy (Risk Assessment) is taken from the patient prior to anaesthesia.

8.5.2 Ensure that all theatre HCWs in contact with a patient identified as having a latex allergy are aware of the patient's status.

8.5.3 Ensure that a safe environment is available for anaesthesia, surgery and recovery. In order to enable a latex safe environment to be prepared patients identified with a latex allergy shall:

- Be placed first on elective operating lists (if powdered latex gloves in use – Refer to Part A, Appendix III, 6-9)
- Be managed with care on emergency operating lists
- So far as is reasonably practicable, ensure that only latex free equipment is used
- Provide follow-up for any patient who has an unexpected reaction during anaesthesia and highlight same in medical notes
- Notify allergy to ward and theatre HCWs, who will cascade information to other care givers
- Ensure patient is referred for further follow-up and testing for latex allergy
- Report NRL allergic reactions suffered by patients/HCWs in line with the *HSE Incident Management Framework, 2020*

8.6 Pharmacy Managers

8.6.1 So far as is reasonably practicable, endeavour to dispense commonly used emergency drugs in latex free containers/equipment.

8.6.2 Provide advice on drugs that may potentially contain latex. So far as is reasonably practicable such drugs should not be used in situations where a patient is suspected of having a latex allergy.

8.6.3 The current manufacturing process of some drug vials involves the presence of dry natural rubber latex (DNR). The risk of using vials with DNR is considered extremely low. Latest recommendations are that vials containing DNR may be used once a "single stick" method of puncturing a fresh vial is used only once. (Heitz, Bader, 2009)

Note: This method has been used widely in the U.S. and studies have shown it to be as effective as removing the bung (which may cause microbial contamination). Insulin vials may be punctured as many as 200 times during shelf life so a latex free alternative should be used if practicable.

8.7 Employees

8.7.1 Take reasonable care to protect their safety, health and welfare and that of others.

8.7.2 Ensure that they are aware of policies, procedures, guidelines and systems of work relating to NRL allergy. HCWs shall be requested by line managers to provide a signature of acknowledgement and understanding for this Policy.

8.7.3 Adhere to and apply this Policy, local procedures and safe systems of work and any associated risk assessments and risk controls.

8.7.4 Work in a safe and responsible manner and co-operate with their employer.

8.7.5 Co-operating in the regular review of risk assessments and control measures (as per Section 2.3 Identification of Control Measures).

8.7.6 Attend relevant training as appropriate.

8.7.7 Report adverse incidents associated with the exposure to NRL in accordance with the *HSE Incident Management Framework*.

8.8 Responsibilities of Procurement

8.8.1 Prioritise procurement of latex free products on contract where possible.

8.8.2 Provide latex content of products as part of contract information to users.

8.8.3 Provide advice on latex content of products by contacting suppliers when requested.

8.8.4 Support the identification and substitution of NRL products where practicable.

8.8.5 Procure gloves in line with Part A, Appendix II *Health Service Executive Guideline for Glove Selection (Adapted from Latex Allergy Support Group (LASG) Guidelines).*

8.8.6 When procuring latex surgeons gloves ensure that they are low protein (less than 50ug/mg) latex powder free gloves or synthetic equivalent e.g. Nitrile, Polyisoprene, Neoprene are used.

8.9 Responsibilities of Occupational Health Services

8.9.1 When indicated assess potential sensitivity to NRL at pre-employment stage.

8.9.2 Where HCWs present with symptoms which could be indicative of latex allergy further assessment may be warranted.

8.9.3 Ensure that HCWs (or prospective HCWs) with NRL allergy and their managers, are advised of any necessary adjustments or restrictions to their work activities.

8.9.4 Provide guidance to HCWs and managers on suitable and safe working environments for HCWs who are NRL sensitised (Refer to Part A, Appendix III).

8.9.5 Provide statistical and other relevant information concerning NRL allergy in HCWs to the Health and Safety Committee, whilst maintaining individual confidentiality.

Appendix I Types of Reactions to Gloves, Symptoms, Potential Causes and Treatment

See Table 2 below "**Types of Reactions to Gloves, Symptoms, Potential Causes and Treatment,** based on the "Report of the Advisory Committee on Health Service Sector to the Health and Safety Authority"

Type	Symptoms	Cause	Treatment
Irritant Contact Dermatitis (Not mediated by immune system -Not a true allergy)	Immediate onset Scaling, drying, cracking of skin. Accounts for 80% of all skin reactions	Irritation by gloves, powder, soaps/detergent, incomplete hand washing	Reversible. Identify the cause. Avoid irritant. Use alternative product.
Allergic Contact Dermatitis, Type IV delayed hypersensitivity (T cell mediated)	Symptoms usually appear between 6 and 96 hours and include blistering, itching and crusting. Usually confined to areas of direct contact. Looks like poison ivy rash.	Hypersensitivity to residual manufacturing chemicals used in gloves production.	Identify cause (by Patch testing) Use alternative glove that doesn't contain the specific additive. Education. Note: Over 70% of Type IV subsequently have a Type 1 reaction
Immediate Hypersensitivity IgE/ histamine-mediated allergy, Type 1 hypersensitivity	Reaction usually starts between 5 and 30 minutes after contact. Local: hives Systemic: generalised urticaria, Rhinitis, wheezing, asthma, Swelling of mouth, shortness of breath, can lead to anaphylactic shock	Latex proteins- direct contact or inhalation. While reactions can be triggered by direct skin contact, it is contact with mucous membranes that is associated with highest risk of exposure/reaction (Procedures such as obstetrics/gynaecology, dental, abdominal surgery, Barium enemas, orthopaedics).	Treat symptoms in acute reaction as necessary- e.g. antihistamines, steroids, bronchodilators If severe-treat using an anaphylaxis protocol. Long term treatment is latex avoidance as each subsequent reaction is more severe (Brown1999) Medi-alert bracelet Education of sufferer, co-workers Carry Adrenaline Auto Injector if had previous serious reaction.

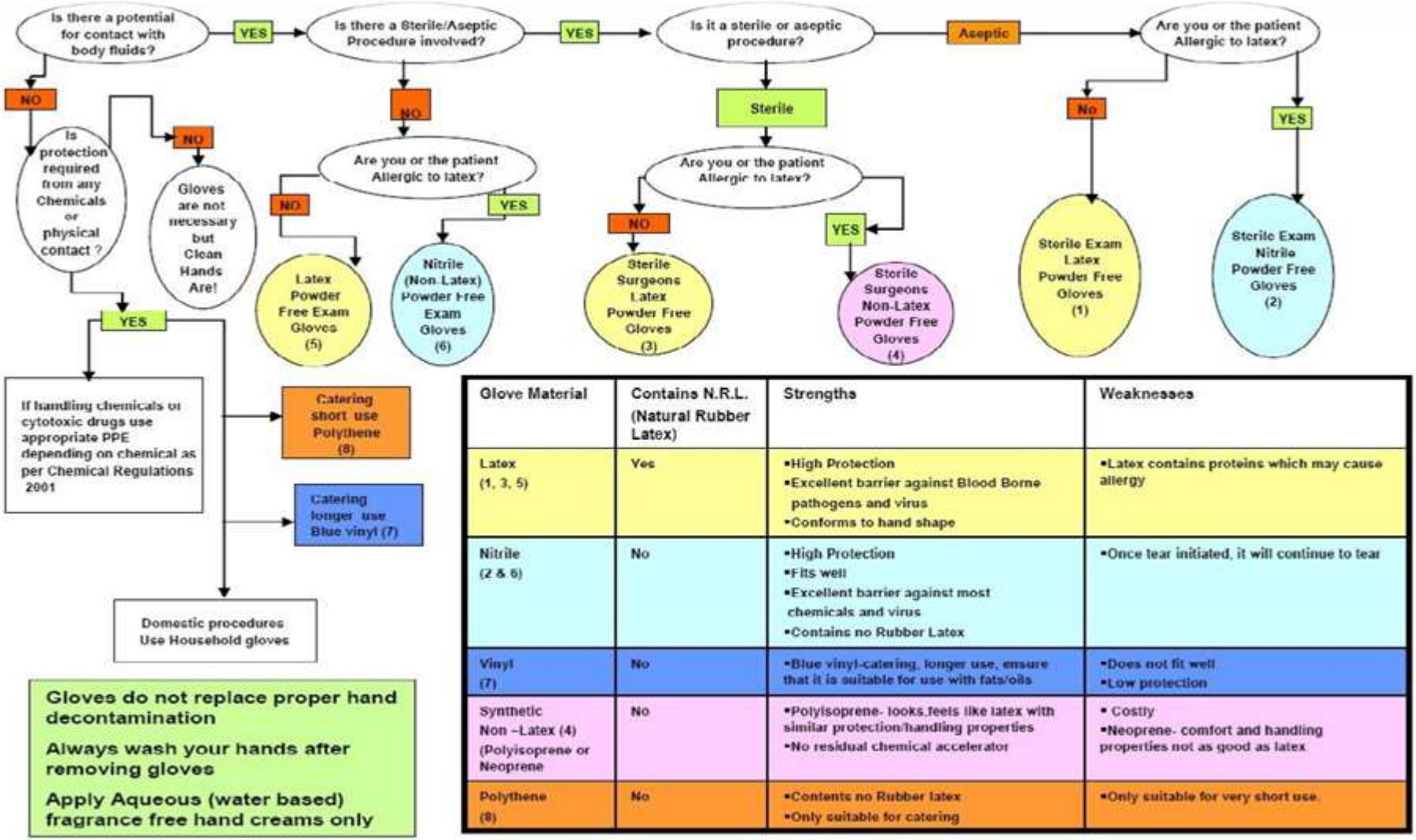
Table 2 - Types of Reaction to Gloves, Symptoms, Potential Causes and Treatment.

1.0 Modes of Exposure

The ways latex can come into contact with HCWs or patients are:

- Cutaneous – through direct skin contact such as gloves, tape
- Mucus membranes- e.g. from internal examinations, dental treatment, intubations, ingestion (food handled with latex gloves)
- Inhalation – breathing aerosolised glove powder
- Internal tissue – via latex products used in surgery
- Intravascular – via injection from products stored or drawn up through rubber bungs on medication vial or through injection ports on IV tubing.

Appendix II Health Service Executive Guideline for Glove Selection (Adapted from LASG Guidelines)



Glove Material	Contains N.R.L. (Natural Rubber Latex)	Strengths	Weaknesses
Latex (1, 3, 5)	Yes	•High Protection •Excellent barrier against Blood Borne pathogens and virus •Conforms to hand shape	•Latex contains proteins which may cause allergy
Nitrile (2 & 6)	No	•High Protection •Fits well •Excellent barrier against most chemicals and virus •Contains no Rubber Latex	•Once tear initiated, it will continue to tear
Vinyl (7)	No	•Blue vinyl-catering, longer use, ensure that it is suitable for use with fats/oils	•Does not fit well •Low protection
Synthetic Non –Latex (4) (Polyisoprene or Neoprene	No	•Polyisoprene- looks,feels like latex with similar protection/handling properties •No residual chemical accelerator	• Costly •Neoprene- comfort and handling properties not as good as latex
Polythene (8)	No	•Contents no Rubber latex •Only suitable for catering	•Only suitable for very short use.

Appendix III Specific Procedures Patients and Clients with identified/suspected latex allergy

1.0	General Procedures
1.1	Every patient/client should be asked about allergies.
1.2	If a patient/client has possible latex allergy, the Latex Screening Tool (Part A, Appendix VI) can be used, and the medical team informed.
1.3	Confirm latex allergy.
1.4	Ensure full awareness of all HCWs involved with patient.
1.5	When patients are being examined, latex safe precautions should be used such as the use of Nitrile (Latex free) gloves only.
1.6	Remove all latex products from room (including gloves) that may come into contact with the patient (Dakin, Yentis, 1998). Note: Latex free symbol on packaging is "Latex" in a circle with a line through it. Only some companies label their products with latex free symbols. Products that do contain latex often have -"Warning - This product contains Natural Rubber latex (or Dry Natural Rubber Latex) which may cause allergy to some people (Refer to Part A, Appendix VII for further information on labelling).
1.7	All procedures must be planned in advance where possible.
1.8	Latest recommendations are that vials containing DNR may be used once a "single stick" method of puncturing a fresh vial is used only once. (Heitz, Bader, 2009).
1.9	Keep numbers of people involved to a minimum – restrict personnel to those involved with the patient (to avoid inadvertent exposure).
1.10	If patient is newly diagnosed:
	1.10.1 They should be given information on latex allergy and told to inform their G.P., dentist and gynaecologist before any examination/treatment as appropriate (MDA, 1996).
	1.10.2 Their diagnosis of latex allergy should be included in their discharge letter.
	1.10.3 If they have a Type I allergy they should be advised to wear a Medi Alert Bracelet.
	1.10.4 Patients who are very sensitive and have had a previous anaphylactic reaction should be advised to carry an Adrenaline Auto Injector and have their own supply of latex free gloves for emergencies (The Latex Allergy Information Resource, 2001).
1.11	Continuous observation is necessary for the continuity of care, observing signs and symptoms of delayed Latex Sensitivity/Allergy, which may include skin reactions (dermatitis) respiratory problems, asthma attacks, and /or anaphylactic shock (Davis 2000).

1.12 Be prepared to treat serious reactions:

1.12.1 Resuscitation Council UK guidance for emergency medical treatment of anaphylactic reactions.

http://www.resus.org.uk/pages/reaction.pdf#search=%22latex%20allergy%22

- Page 20 Quick One page summary on Treatment of Anaphylaxis

1.12.2 Consider the possibility of latex-induced anaphylaxis in any patient with a severe allergic-type reaction with respiratory difficulty and/or hypotension especially if skin changes present, and particularly in the following groups:

- History of anaphylaxis to latex, or other latex, rubber or food (especially fruit) allergy
- Spina bifida, genitourinary abnormalities, multiple surgical procedures or reactions to Intravenous drugs.

1.12.3 If anaphylactic reaction to latex suspected:

- Remove Allergen
- Get Latex-free Resuscitation Equipment
- If patient experiences anaphylactic shock arrange admission to hospital for 24 hours of monitoring, since symptoms may re-occur following successful treatment (LAIR, 2001).

1.13 Flag latex allergy (if confirmed) to PHN/GP on discharge summary.

2.0	**Common Procedures (Inpatient/Outpatient/Clinic/Community)**
2.1	Blood Pressure - Use latex free blood pressure cuffs where available, otherwise cover arm with sleeve or knitted cotton stockinette (not elastic type) before applying cuff. Stethoscopes may have latex in tubing, ear pieces or bell. If in doubt cover bell with transparent film IV dressing.
2.2	Taking Blood - If patient needs blood taken alert phlebotomist to the possible latex allergy so as to ensure nitrile gloves are worn and disposable latex free tourniquet are used.
2.3	Carrying out an ECG - check electrodes are latex free.
2.4	X-ray - If patient needs an x-ray alert radiographer beforehand.
2.5	Inserting IV lines - Commonly used brands of cannulas, transparent film IV dressing, t-pieces, yellow heplocks, 3-way stopcocks and extension sets are latex free. Some IV giving sets may have latex in the side ports. Do not inject through these ports-follow local IV policy. Common brands of needles and syringes in use in the Health Service Executive (for IM, SC, IV injections) are Latex free.
2.6	Internal examinations - PV, PR, use latex free gloves.

2.7	Catheterising - avoid Foley latex or Silastic catheters - only use 100% or ALL silicone catheter and latex free gloves. Avoid leg bags as they may have latex in the elasticised straps (unless packaging states latex free). Avoid latex condom catheters, use 100% silicone alternatives.
2.8	Dressings - avoid elastic adhesive type bandages, elastic net type tubular bandages and sticking plaster unless latex free. Tape check latex content. Some tape cloth/silk adhesive tapes do not contain latex but seem to cause localised reaction in most latex allergic/sensitive patients. Use paper tape. There are latex free versions of waterproof plastic adhesive tape.
2.9	Other procedures e.g. smears, insertion of IUDs, colposcopies, flexible cystoscopes, dialysis check all equipment is latex free before use.

3.0	**Dental Surgery**
3.1	If treating a known latex sensitive patient be aware of signs and symptoms of adverse reaction and be prepared to treat same.
3.2	The current manufacturing process of some plastic dental cartridges involves the presence of dry natural rubber latex (DNR) as a component. DNR has been shown to have extremely low risk of reactions. Latest recommendations are that vials containing DNR may be used once a "single stick" method of puncturing only once, on a fresh vial is used (Heitz, Bader, 2009).
3.3	Surgical masks with looped elastic ear ties may contain latex.
3.4	Some dental dams also contain latex so check first with supplier.
3.5	Other common dental equipment which may contain latex includes: o Bite blocks o Amalgam carriers o Impression materials o Orthodontic rubber bands and elastics o Polishing discs o Prophy cups o Alginate Mixing Bowls o Anaesthetic equipment (reference Part A, Appendix III, Section 9.0) o Latex gloves - use nitrile for non-sterile and neoprene or isoprene for sterile requirements

4.0	**Orthopaedics**
4.1	Check bandages for latex content. o Bandages made from woven/knitted crepe/cotton are latex free o Cotton/synthetic wool bandages are latex free o Elastic compression bandages/tubular stocking bandage may contain latex (unless synthetic elastic used)
4.2	Plaster room materials such as Plaster of Paris (gypsum) and fibreglass casting materials are latex free.
4.3	Cotton /plastic cervical collars are latex free. All other braces supports and crutches should be checked before use.
4.4	Other orthopaedic products that may contain latex include skin traction sets.

5.0	Outpatients
5.1	If a patient has a possible latex allergy, the patient should be referred for testing to a dermatologist so allergy can be confirmed/ruled out before patient comes in for admission.
5.2	If patient is due for surgery, alert surgical team as patient may need to be first on the list and ward/theatre will need prior notice of admission.
5.3	For patient with confirmed latex allergy clinicians should ensure that the chart is clearly marked with "latex allergy" (under the allergy section) and comply with local policy on maintenance of patient records.

6.0	Additional Inpatient Ward Precautions (Includes Dialysis, Ante/Post Natal Wards, Community Care, Mental Health)
6.1	As powdered latex gloves are no longer used in the HSE (previously replaced with nitrile gloves as standard), patients do not need to be nursed in a side room and no additional cleaning requirements are needed to prepare the room.
6.2	Signs declaring latex sensitive patient should be placed over bed and on door of room (with patients consent).
6.3	Extra wristband on patient with "Latex Allergy" written on it.
6.4	Some multi-dose vials have latex rubber bungs. Use "single stick" method (refer to 8.6.3 Responsibilities of Pharmacy Managers).
6.5	Contact kitchen to ensure patients food is prepared without using latex gloves. There have been reports of anaphylaxis associated with the eating of contaminated food. Also warn the kitchen if patient has any food allergies. Catering areas should only be using blue vinyl or polythene gloves for food preparation. Latex/nitrile gloves are not appropriate for food preparation (Refer to Part A, Appendix II).
6.6	If patient needs to leave ward to visit other department e.g. x-ray, endoscopy alert them beforehand.
6.7	Anti-embolism stockings - some brands may contain latex - check labelling before use.
6.8	If patient due for theatre:
	6.8.1 Give theatre as much advance notice as possible.
	6.8.2 Trolley mattress must be completely covered with cotton sheet (Dakin, Yentis, 1998).
	6.8.3 Use a tie-on theatre hat instead of an elasticised one.
	6.8.4 Post op precautions:
	6.8.4.1 Venturi oxygen masks are latex free.
	6.8.4.2 Some PCA syringes may contain Latex - check before use.
	6.8.4.3 Only use silicone resuscitation bag mask valve sets and not black rubber ones.
	6.8.4.4 Remind ward HCWs of the need to continue latex safe environment post – operatively and to be alert for delayed signs of reaction as above.
6.9	Ostomy belts may contain latex.

7.0	Additional Precautions for Maternity Hospitals
7.1	Admission room/scan rooms in maternity hospitals - CTG monitoring reusable brown elastic straps contain latex. Disposable latex free versions should be available.
7.2	Check transducer covers for vaginal ultra sounds some brands may contain latex.
7.3	Disposable plastic Amniotic Membrane Perforator (Amnio-hooks) for rupture of membranes is latex free.
7.4	If the mother has a latex allergy the baby should also be cared for in a latex safe environment to reduce the mother's risk of having an accidental exposure and possible reaction.
7.5	Silicone bottle teats and soothers should be used instead of latex.
7.6	Flag latex allergy (if confirmed) to PHN/GP on discharge summary.

8.0	Additional Precautions for other critical areas e.g Emergency Departments , ITU (General and Cardiac), CCU, Labour Ward and Theatre
8.1	Swann-Ganz catheters may contain latex - check before use.
8.2	Disposable Adhesive Defibrillation pads may contain latex - check before use.
8.3	ECG electrodes- commonly used brands are latex free - check before use.
8.4	Stacking tubes may contain latex - check before use.

9.0	Anaesthesia (LASG)
9.1	The Association of Anaesthetists for Great Britain and Ireland give guidance for "*Anaphylactic reactions associated with Anaesthesia*" including diagnosis of suspected latex allergy-induced anaphylaxis *https://www.frca.co.uk/article.aspx?articleid=101014* .
9.2	For most recent Resuscitation Council (UK) guidance for emergency medical treatment of anaphylactic reactions visit: https://www.resus.org.uk/library/additional-guidance/guidance-anaphylaxis/emergency-treatment
9.3	**Common Anaesthetic Equipment that Is Acceptable To Use**
9.3.1	Plastic endotrachael tubes, guedal airways, commonly used brands of ECG electrodes, disposable laryngeal mask airways, clear plastic filters, plastic angle pieces, disposable anaesthetic face masks.
9.3.2	Ventilator and anaesthetic machine (includes common gas outlet and excludes black paediatric bellows). Use disposable latex free adult/paediatric re-breathing bag not black rubber reusable ones.
9.3.3	Bird ventilator, diaphragm, exhalation valve housing and flow sensor.
9.3.4	Disposable re-breathing bags - most commonly used are latex free, check packaging.
9.3.5	Most commonly used C-PAP, Bi-PAP systems are latex free - check packaging.
9.3.6	Most disposable catheter mounts are latex free - check packaging.
9.3.7	Most commonly used anaesthetic disposable tubing (includes elephant tubing but

not re-breathing bag) are latex free - check packaging.

9.3.8 Most commonly used Anaesthetic monitoring equipment (pulse oximeters, ECG leads) are latex free (check packaging). Reusable BP cuff may contain latex. Latex free cuffs usually state same on cuff.

9.3.9 Nebulisers and attachments most commonly used brands are latex free -check packaging.

9.3.10 100% silicone resuscitation bag mask valve sets and pocket masks.

9.3.11 Disposable plastic suction tubing, suction yankauer and catheters.

9.3.12 Use disposable laryngoscope blades.

9.3.13 Have disposable latex free endotracheal introducer (boogie) available.

9.3.14 Disposable venturi oxygen masks from unopened packet.

9.3.15 Blue silicone nasal airways are latex free but red may contain latex - check packaging.

9.3.16 Disposable transparent intra-operative anaesthetic eye covering or paper tape.

9.3.17 Inserting IV lines – Refer to 2.5.

9.3.18 Check blood warming lines, epidural and spinal needles.

9.4 Anaesthetic Equipment That Is Not Suitable Includes

9.4.1 Reusable BP Cuff if not latex free (may only be used if arm is covered with stockinet first, making sure that black rubber parts are not in contact with patient – alternative disposable BP cuff may be used and ideally stored on a latex free trolley.

9.4.2 Stethoscopes-cover bell with transparent IV adhesive dressing.

10.0 Theatre Precautions - These Guidelines also apply to any medical/invasive procedures and units Including Endoscopy, X-Ray (Angiograms, Scans etc.)

10.1 Preparing the Theatre

10.1.1 As there is a link between development of latex allergy and the number of operations in the first year of life (Degenhardt et al, 2001), all babies (under one) having operations should be treated in a latex safe environment so far as reasonably practicable.

10.1.2 In the unlikely event of powdered gloves being used in the theatre (Refer to Part B Policy Statement 1.2.5) First on list (Davis, 2000, AANA Latex allergy protocol), or theatre cleaned using latex free gloves and left for 30 minutes to allow sufficient air exchanges or 15 minutes if laminar air flow is in use (LASG).

10.1.3 If powdered gloves are not used in the theatre then the patient does not need to be first, but all unnecessary equipment should be removed and all horizontal surfaces cleaned using Nitrile gloves before the case (ASCIA).

10.1.4 Tie on theatre hat to be used instead of elasticised one unless latex free version available.

10.1.5 All latex gloves should be removed from theatre for the duration of the procedure to avoid inadvertent use of same.

10.1.6 “Latex Free” signs on theatre doors - all doors closed.

10.1.7 Personnel limited.

10.1.8 Remove all non-essential equipment from theatre.

10.1.9 Anaesthetise patient in main theatre and not in anaesthetic room.

10.1.10 Some sources advise pre-med with corticosteroids and other drugs (Darin, Yentas 1998), but this is controversial and may mask early symptoms of a reaction (Bowyer 1999).

10.1.11 Table and accessories covered in cotton sheets or pillowcases.

10.1.12 Surgical attire - fresh scrubs, tie on masks (not ones with rubber elasticised ties).

10.1.13 Any patient that experiences an unexplained anaphylactic shock intra-operatively should be presumed to be latex allergic until proven otherwise. Follow up testing should then be carried out to identify the allergen responsible.

10.1.14 It is useful to have one designated latex free cart of supplies which can be used by all theatres and should contain items such as latex free surgeons gloves , latex free disposable blood pressure cuffs, disposable re-breathing bags and any other latex free alternative to items commonly used that contain latex, unless latex free versions are standard in use.

10.2 Intra-operatively

10.2.1 Draping/gowning - linen drapes are latex free and most disposable drapes are latex free - check packaging.

10.2.2 Instruments:

10.2.2.1 Set up trolley with latex free gloves.

10.2.2.2 Exercise caution with instruments that have rubber/elastic bands around them.

10.2.2.3 If informed of case in time, get pack and/or extra instruments re-washed and re-autoclaved without rubber bands and without using latex gloves to handle them. If not possible, remove rubber band, irrigate instruments in bowl of sterile saline, dispose of bowl and change gloves.

10.2.3 Avoid rubber bands, rubber shods, vessel loops unless clearly labelled latex free on packaging.

10.2.4 Tourniquet:

10.2.4.1 If the application of a tourniquet and /or Reese Davis type exsanguinators is necessary then use latex free version or alternatively if none available, the limb must be covered with cotton (not elastic) tubular bandage first.

10.2.4.2 Care must also be taken that the rubber connecting tubes are also covered where they could come into contact with patient.

10.2.5 Avoid red rubber esmarch bandages - alternative is elevation or use latex free version.

10.2.6 Disposable Patient Return Electrodes for Monopolar Diathermy: most common brands are latex free - check packaging.

10.2.7 Magnetic mats may contain latex - do not use.

10.2.8 Other products that may contain latex and should be checked before use include:

10.2.8.1 Image Intensifier covers.

10.2.8.2 Penrose drains (unless 100% silicone) and Kehr's t-tubes.

10.2.8.3 If catheterising in theatre avoid Foley silastic catheters - use 100% or all silicone only.

10.2.8.4 Check all stents and guidewires.

10.2.8.5 Check embolectomy catheters - balloon may contain latex.

10.2.9 Check adhesives and tapes in relation to latex content to see which ones are latex free. Avoid elastic adhesive (unless packaging states latex free), silk tape and zinc oxide tape. Paper tape is latex free.

10.2.10 Orthopaedic products: (Refer to 4.0).

10.3 Post-operatively

10.3.1 Patient should be recovered in the operating theatre if possible until ready to return to ward. PACU HCWs should come in appropriately dressed to recover them. (Davis 2000).

10.3.2 If this is not feasible then the patient should be recovered in an end bay of recovery. The bay should be prepared in advance by removing latex gloves/products from bay. The latex safe cart of supplies from theatre can accompany patient to recovery. PACU HCWs should be given adequate notice to prepare.

10.3.3 A "Latex Allergic" sign should be put up in PACU cubicle.

10.3.4 Venturi oxygen masks are latex free.

10.3.5 Check PCA syringes.

10.3.6 Common brands of needles and syringes in use in the Health Service Executive (for IM, SC, IV injections) are Latex free.

10.3.7 Only use Silicone bag mask valve resuscitation device and not black rubber one.

10.3.8 Keen eyes are necessary for the continuity of care, observing signs and symptoms of delayed Latex Sensitivity/Allergy, which may include skin reactions (dermatitis) respiratory problems, asthma attacks, and /or anaphylactic shock (Davis, 2000).

10.3.9 If patient experiences anaphylactic shock arrange admission to ICU for 24 hours of monitoring, since symptoms may re-occur following successful treatment (LAIR, 2001).

10.3.10 Remind ward HCWs of the need to continue latex safe environment post-operatively and to be alert for delayed signs of reaction as above.

Appendix IV Specific Procedures - Healthcare workers (Prevention and Management of Latex Sensitisation)

These guidelines are aimed at the prevention of latex allergy as well as the prevention of symptoms in HCWs with latex allergy so the policy is in use at all times.

Special Precautions for Healthcare workers (based on recommendations by the Health and Safety Authority (H.S.A. 2001).

"Report of the Advisory Committee on Health Services Sector to the Health and Safety Authority", 2001 Pg. 66 and National Institute for Occupational Safety and Health- (NIOSH) Publications Nos. 97-135 and 98-113.

1. The appropriate selection of gloves as detailed in Part A, Appendix II.
2. Use non-latex gloves for workers who are sensitised to latex (H.S.A. Report 2001).
3. Good hand care as per HSE Hand washing advice leaflet refer to:

   https://www.hpsc.ie/publications/posters/RESIST%20hand%20hygiene%20poster%20A4.pdf

   When wearing latex gloves, do not use oil-based hand creams or lotions as they interact with the latex facilitating absorption of the latex proteins (H.S.A. Report 2001).

4. Ensure that HCWs have read and understand this policy and are aware of (H.S.A. Report 2001):

   4.1 The risks of exposure to latex for HCWs.
   4.2 Safe working methods.
   4.3 Availability of Health checks/surveillance as appropriate.
   4.4 How to recognise symptoms of latex allergy: skin rashes; hives; flushing; itching; nasal, eye, or sinus symptoms; asthma; and shock.
   4.5 Action needed if they think they are affected by latex allergy (Management referral to Occupational Health department for assessment).

5. All HCWs attending the Occupational Health Department with skin complaints are assessed, and treated on an individual basis as required. They will be given on-going support and referred for testing if needed. If they have a latex allergy their work area will be risk assessed and control measures implemented by their line manager. They will be required to avoid contact with latex products at work and at home indefinitely.
6. If you have latex allergy, consult your Occupational Health Physician regarding the following precautions (NIOSH 97-135).

   6.1 Avoid contact with latex gloves and products.
   6.2 Tell your employers, physicians, nurses, and dentists that you have latex allergy.
   6.3 Wear a medical alert bracelet.
   6.4 HCWs who have had serious reactions may be advised to carry an Adrenaline Auto Injector.
   6.5 Possible evidence-based options for health surveillance.

7. Resources and Equipment Required: Latex free gloves/products are available from Procurement Departments across the HSE.

Appendix V Identification of Risk Groups

1 Identification of Risk Groups (Dakin, Yentis, 1998). Look for:

1.1 History of anaphylaxis to latex or a positive skin prick test to latex.

1.2 History of allergy / sensitivity to latex:

1.2.1 Itching, swelling or redness after contact with rubber products.

1.2.2 Swelling of tongue or lips after dental examination or blowing up balloons.

1.3 High risk groups without history of latex sensitivity:

1.3.1 Repeated catheterisation e.g. spina bifida, urogenital abnormalities (18-73%, Sussman et al 1995).

1.3.2 Health care workers / occupational exposure to latex (7-10%, Sussman et al 1995).

1.3.3 History of multiple surgical procedures (6.5%, Moneret-Vautrin et al 1993).

1.3.4 Atopic nature / multiple allergies, especially fruit allergies. Fruit allergies:

- Highest risk with (e.g. banana, avocado, chestnut and kiwi
- Medium risk: Apple, carrot, celery, melons, papaya, potato and tomato
- Lowest risk All other fruits and nuts (6.5%, Kurup et al)

Appendix VI Sample Patient Latex Allergy Screening Tool

Name		**Date**	
Address		**Reason for hospital visit**	
D.O.B		**Consultant**	
MRN		**Occupation**	

1. **Have you ever had a reaction to Natural Rubber Latex (NRL) devices/products?**
   If yes, please explain what happened

2. **Has a doctor or a dentist ever told you that you have an allergy to latex products?**
   If yes, what were you told

3. **Do you have any medical condition/congenital abnormalities (spina bifida/spinal injury) that have caused you to be exposed to a great number of latex products?**

4. **Have you ever had a reaction (i.e. redness, swelling, watery eyes, breathing difficulty) to any of the following sources of NRL? (Tick as appropriate)**

Balloons		Rubber gloves		Band aids		Contraceptive device	
Hot water bottles		Eraser		Rubber bands/balls		Latex/rubber face mask	
Foam pillows		Elastic bandages		Baby bottles/nipples/ soothers		Cuffs/elastic waistbands	
Ostomy bags		Belts/bras/ suspenders		footwear			

5. **After handling NRL products, have you experienced any of the following?** (tick as appropriate)

Difficulty in breathing		Itching (e.g. hands, eyes)		Chapping or cracking of hands		Swelling of mouth, lips or throat	
Runny Nose/ congestion		Hives		Redness			

Other

6. **Do you have a history of any of the following?** (tick as appropriate)

Eczema		Asthma		Hay Fever	
Contact Dermatitis		Auto-immune disease e.g. lupus			

7. **Have you ever experienced an unexplained allergic reaction during a dental or medical procedure?**

8. **Do you have any food allergies e.g. banana, kiwi, avocado, chestnut, tomato, potato, nuts, etc.?**
   If yes describe which products and the reactions experienced

9. **Do you have any other allergies e.g. penicillin, nickel?**

10. **Have you ever had any surgery or extensive dental treatment before?**
    If yes, please list:

11. **Does you occupation involve contact with products containing NRL?**
    If so, which ones?

Guidelines on the Screening Tool

If a patient answers yes to any of questions 1-5, treat in a latex safe environment. Confirm latex allergy in patients with suspected/unconfirmed latex allergy.

This patient latex allergy assessment-screening tool is used to determine the need for "Latex precautions" by diagnostic history or risk factors for latex allergy:

Guideline 1 All patients regardless of risk group status should be questioned about a history of latex allergy. Any unexplained reactions during surgery such as low blood pressure with hives or trouble breathing should also cause concern, as they may be indicative of a latex allergy. Latex allergy should be considered as a possible cause in any intra-operative anaphylactic reaction especially if within 15 to 30 minutes of commencement of operation (due to exposure to latex gloves, catheters etc.)

Guideline 2 Procedures on all patients with a positive history regardless of risk group status should be performed in a latex safe environment.

Guideline 3 Procedures on all patients with spina bifida regardless of history should be performed in a latex safe environment.

Guideline 4 A serious reaction to food especially banana, avocado, kiwi, nuts etc. could indicate a cross reaction to latex and patients should be tested for latex allergy.

This questionnaire was compiled from a number of sources as follows:

- Liebermann, Phil, "Anaphylactic reactions during surgical and medical procedures" Journal of Allergy and
- Clinical Immunology, Vol. 110, Number 2, August 2002, Pg. S67
- National Association of Theatre Nurses policy document - "Understanding Latex in the Peri-operative setting"
- Laney G.E. 1998 "A Guideline to assist in the management of those patients known, or thought to be at risk of suffering from an allergy to latex containing products"
- Miller, Kristi, Weed, Page, "The latex allergy triage or admission tool. An algorithm to identify which patients would benefit from 'latex safe' precautions", Journal of Emergency Nursing, Vol. 24 (2) 1998

Appendix VII Products Containing Latex

A wide variety of products contain latex: medical supplies, personal protective equipment, and numerous household objects. The following are examples of products that may contain latex:

1.0 Emergency Equipment

- Blood pressure cuffs
- Stethoscopes
- Disposable gloves
- Oral and nasal airways
- Endotracheal tubes
- Tourniquets
- Intravenous tubing
- Syringes
- Electrode pad

2.0 Hospital Supplies

- Anaesthesia masks
- Catheters
- Wound drains
- Injection ports
- Rubber tops of multi-dose vials
- Dental dams

3.0 Personal Protective Equipment

- Gloves
- Surgical masks
- Goggles
- Respirators
- Rubber aprons

4.0 Office Supplies

- Rubber bands
- Erasers

5.0 Household Objects

- Automobile tires
- Motorcycle and bicycle handgrips
- Carpeting
- Swimming goggles
- Racquet handles
- Shoe soles
- Expandable fabric (waistbands)
- Dishwashing gloves
- Hot water bottles
- Condoms
- Diaphragms
- Balloons
- Baby bottle teats/soothers

Note: The above examples were taken from NIOSH Publication 97-135 pg. 2

6.0 Other products containing NRL

- Finger splints
- Trocar (inside balloon)
- ENT - nasal bandage
- suction and irrigation probes
- Urology - Pezzer drain
- 3 way urinary Catheter
- Ellik Evacuation

7.0 General

Individuals who already have latex allergy should be aware of latex-containing products that may trigger an allergic reaction. Some of the listed products are available in latex-free forms.

Medical supply companies have voluntarily replaced latex components in many products with latex free versions. Latex alternative materials include silicone, Nitrile, Butyl, vinyl which is made from petrochemicals.

8.0 Labelling

The Medical Devices Directive (93/42/EEC) and amendment Regulations compel manufacturers to state when a product contains latex.

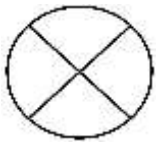
BS EN 980:2008
EN 980:2008 (E)
Symbol for "CONTAINS OR PRESENCE OF NATURAL RUBBER LATEX"

This symbol should only be used when natural rubber latex is a material of construction within the device or the packaging of a device to warn those people who may have allergic reactions to certain proteins in natural rubber latex. This symbol should not be used for devices containing 'synthetic' rubber.

In the U.S. if a product does contain latex it must state on the packaging if a product does contain latex e.g.

Latex gloves or Latex urinary catheters "This product contains natural rubber latex, which may cause allergic reactions including anaphylactic responses".

There is no official symbol for Latex Free but manufacturers use symbols seen below to show that they are latex free.



HSE Procurement should endeavour to supply latex free products as the norm where reasonably practicable.

Part B

1.0 Initiation

1.1 Purpose

The purpose of this policy is to set out the HSE's chosen approach to managing the risks to patients, HCWs and others who may be exposed to Natural Rubber Latex (NRL) in the course of the HSE's activities.

It is recognised that exposure to NRL may lead to the development of an allergy (Refer to Part A, Appendix I), which is associated with a range of reactions to the substance including skin rashes (allergic contact dermatitis), local or generalised urticaria ("hives"), "hay-fever" like symptoms (e.g. rhinitis and conjunctivitis) and asthma. In rare cases contact may lead to potentially fatal anaphylaxis. Contact with NRL may be either direct (skin contact) or indirect (exposure to airborne particles).

Allergy to NRL may be an issue for HSE HCWs who could be exposed to NRL during the course of their work, and for patients who may be exposed during treatment. The risk of developing NRL allergy is associated with the extent of individual exposure to latex proteins.

NRL has many applications in the healthcare setting such as disposable gloves, medical devices, equipment and clothing (Refer to Part A, Appendix VII).

1.2 Policy Statement

It is the policy of the HSE to:

1.2.1 Ensure, as far as is reasonably practicable, the safety, health and welfare of its healthcare workers and others who may be affected by its work activities.

1.2.2 Reduce, to the lowest level reasonably practicable, the exposure of HCWs and patients to Natural Rubber Latex (NRL) and provide articles that are safe and without risk to health.

1.2.3 Reduce, as far as is reasonably practicable, the risk of sensitised individuals being exposed to NRL.

1.2.4 Powdered latex gloves are not permitted and have been phased out.

1.2.5 Ensure that where available, latex free products shall be used so far as is reasonably practicable. Where it is not practicable to use latex free products, e.g. surgical latex gloves the HSE recommends that only low protein (less than 50ug/mg) latex powder free gloves or synthetic equivalent e.g. Nitrile, Polyisoprene, Neoprene are used.

1.2.6 Make appropriate health surveillance available to HCWs exposed to NRL.

1.2.7 Provide HCWs with necessary information and training.

1.2.8 Record and report as appropriate all incidences of allergy.

1.2.9 Manage HCWs and patients who develop an NRL allergy in such a way as to minimise the risk of ill health effects (Refer to Part A, Appendices II, III, IV and VI).

1.2.10 Ensure arrangements are in place to monitor and review the effectiveness of the HSE's programme for managing latex allergy.

This Policy supersedes the HSE Policy on the Prevention and Management of Latex Allergy, 2017.

Individual services may develop local guidelines and/or standard operation procedures to support implementation and ongoing monitoring of this Policy.

Disclaimer

Where this document identifies products/product types it is solely for ease of reference. This should not be construed as product promotion on behalf of the HSE. The HSE accepts no liability from suppliers in this regard.

1.3 Scope

The policy applies to managers (Responsible Person) and employees (including temporary employees, agency employees, students, volunteers, contractors and any employee contracted to provide services for the HSE) who are:

1.3.1 Responsible for, or work in an area where products containing Natural Rubber Latex (NRL) may be used or handled.
1.3.2 Involved in the procurement of medical equipment/devices/clothing.
1.3.3 Involved in the setting of clinical/procurement (etc.) policy where the policy may have an impact on the use of products containing NRL.

In line with the *HSE Code of Governance (2021)* Section 38 and Section 39 Organisations are required to adopt this Policy or develop a Policy of their own which is consistent with this Policy and provide a statement of assurance to the HSE regarding same.

1.4 Objectives

- Raise awareness and provide guidance on issues relating to latex and HCWs
- To outline the clear roles and responsibilities of all responsible persons
- To ensure the prevention and management of latex allergy is incorporated into the risk assessment process
- To provide advice and guidance on risk reduction measures and evidence based practice which will minimise the risks associated with exposure to latex
- To outline the requirements for incident reporting and follow up care to HCWs who appear to have symptoms of NRL allergy.

1.5 Outcomes

- Clear roles and responsibilities of responsible persons are clearly outlined as part of this Policy
- The general principles of prevention as outlined in the 3rd Schedule to the *Safety, Health and Welfare at Work Act 2005* are incorporated into the HSE Risk Control Programme
- There is clear guidance on risk reduction measures and evidence based practice which will minimise the risks associated with exposure to NRL
- Requirements for incident reporting and follow up care of the injured employee are clearly outlined in this Policy.

1.6 Policy Development Group

Members of the Policy Development Group can be found in Part B, Appendix IIB of this Policy. Conflict of Interest Declaration Forms were signed by members of the Policy Development Group and are retained on file by the National Health and Safety Function (NHSF), Policy Team.

1.7 Approval Governance Group

Members of the Approval Governance Group can be found in Part B, Appendix IIIB of this Policy.

1.8 Supporting Evidence

1.8.1 The following legislation is pertinent and was referred to during the development of this Policy:

- Safety, Health and Welfare at Work Act 2005
- Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 to 2021
- Safety, Health and Welfare at Work (General Application) Regulations 2007 to 2021
- Social Welfare (Consolidated Occupational Injuries) Regulations 2007 to 2015
- Medical Devices Directive (93/42/EEC) and amendment Regulations

Note: Please also refer to Section 8.0 Bibliography for articles and publications pertinent to this policy development.

1.9 Glossary of Terms/Definitions/Abbreviations

Refer to Part B, Appendix IVB.

2.0 Development of PPPG

2.1 Literature Review Question

The objective of the literature review was to determine:

a) What is Natural Rubber Latex
b) What is the cause of NRL allergies
c) What is the extent of the problem in Healthcare and who is most at risk
d) What strategy/strategies should the HSE adopt to manage the risk

(a) What is Natural Rubber Latex?

Natural rubber latex (NRL) is an intracellular cytosol secreted from a rubber tree, Hevea brasiliensis (Hev b), which functions as a protective sealant. The milky substance is first ammoniated to prevent bacterial contamination and coagulation and then multiple chemicals are added: accelerators, antioxidants and secondary preservatives. Because of its excellent elastic properties, NRL is widely used in the manufacture of medical devices and in a variety of everyday articles such as catheters, gloves, condoms and balloons.

The diagnosis of natural rubber latex allergy (NRLA) is formulated on the basis of an accurate medical history, physical examination, and in vivo and in vitro tests.

(b) What are the causes of NRL allergies?

Natural rubber latex contains fifteen proven allergenic proteins (Hev b1 to Hev b15) (2). Airborne

antigen exposure is an important source of latex sensitization among HCWs. The addition of corn-starch powder to improve the fit of gloves has been shown to increase this latex protein aerosolisation; for this reason, the use of powder-free latex gloves markedly reduces the risk of sensitization.

Latex absorption through the skin is another major route of sensitisation in HCWs, especially when the skin is damaged.

Although both latex sensitisation and latex allergy are IgE-mediated hypersensitivities in response to natural rubber latex allergen exposure, latex sensitisation is asymptomatic. If latex exposure continues, latex sensitisation can deteriorate and become latex allergy, which presents with clinical manifestations such as itchy skin, itchy nose, urticarial, angioedema swellings, cough, asthma, and anaphylactic reactions. For further information on types of reactions to gloves, symptoms, potential causes and treatment, please refer to Appendix I.

(c) What is the extent of the problem in Healthcare and who is most at risk?

Data analysis from limited studies suggests that the current average latex allergy prevalence among the general population worldwide is 4.3%. HCWs (HCWs) are the occupational group most affected by NRLA owing to their frequent use of latex gloves. The current prevalence of latex allergy and sensitization among HCWs worldwide are 9.7% and 12.4%, respectively.

(d) What strategy/strategies should the HSE adopt to manage the risk?

Primary prevention of latex allergy (NRL) means the reduction of exposure of NRL to prevent sensitization in susceptible workers and at-risk populations.

There have been efforts by the international glove industry to develop innovative protocols in order to reduce the allergenic content, satisfying both consumer demand and regulatory requirements. These include deproteinization and purification obtained by the addition of proteolytic and/or surfactant enzymes, chlorination process and high-temperature post-washing.

Regarding the use of alternative synthetic gloves, manufacturing companies have produced accelerator-free gloves using different materials (polychloroprene, nitrile and polyisoprene thermoplastic elastomers) or after washing in a strong alkaline solution.

In the USA the Food and Drug Administration (FDA) has approved guayule gloves for use in the general population and has recognized and labelled these gloves as Hevea latex free.

Another crucial strategy of primary prevention in the workplace is the creation of a latex allergy task force and the development of appropriate facility policies, awareness and educational initiatives among HCWs.

There is limited evidence that latex-allergic workers can continue to use PFLP (powder-free, low-protein) latex gloves with no worsening of symptoms, provided that their co-workers also use PFLP latex or non-latex gloves.

A follow-up study of patients with NRL which included HCW's was undertaken in the South Infirmary and Cork University Hospitals. As many as 60% were HCWs at the time of diagnosis. Half of the patients (n=10) had changed occupation since diagnosis, only three reported that latex allergy was the reason for this change. At the time of the study 30% (n=6) of those previously diagnosed with latex allergy, had a negative skin prick test to latex extract and no detectable latex-specific IgE. As the authors note, these results suggest that a proportion of workers with latex allergy may become desensitized to NRL following a period of avoidance.

2.2 Literature Search Strategy

The literature search strategy involved an electronic database search using PubMed. The keywords used to guide the search included the words 'latex' and 'allergy' (3980 results). The search was limited to articles published between 2011 and 2021 (712 results) to ensure recent and up-to-date articles were reviewed. A filter by article type 'review' was used and resulted in 156 articles. Following screening of the title and abstract, 13 articles were selected for review. One additional article of relevance, specific to the Irish context, was identified on consulting an OHP with a special interest in occupational dermatology[2].

2.3 Method of appraising evidence

The process outlined in this policy is based on a review of the relevant legislation, relevant publications and articles as outlined in Part B, Section 8.0.

2.4 Recommendations

It is recommended that the risk control programme for NRL as outlined in Part A continues to be adopted as the most effective approach for the prevention and management of NRL allergy.

2.5 Resources necessary to implement the PPPG Recommendations

This Policy revision requires Service Managers to review existing practices and procedures to ensure they are aligned with the requirements as set out in this Policy.

3.0 Governance and Approval

Formal governance for this Policy is provided by the National Director of Human Resources (Refer to Part B, Appendix IIIB). The PPPG Checklist for developing Non-Clinical PPPGs was signed prior to approval and is retained on file by the NHSF, Policy Team.

4.0 Communication and Dissemination

The Policy will be disseminated by the National HR Directorate for immediate implementation by relevant services, in line with the agreed HSE protocol and is available on https://healthservice.hse.ie/staff/benefits-services/health-and-safety/latex.html

5.0 Implementation

5.1 Managers (Responsible Persons)

The managers are responsible for implementation of this Policy to include the identification of responsible person(s), specifying the necessary actions and timeframes for implementation within their areas of responsibility.

[2] Power, Susan, Gallagher John, Meaney, Sarah (2010) "Quality of life in health care workers with latex allergy" Occupational Medicine 2010;60:62-65

5.2 Education and Training

Managers are responsible for ensuring that HCWs are provided with the necessary information, instruction and training to enable them to prevent and manage the risk associated with NRL as outlined in Part A Section 5.0 Information, Instruction and Training.

6.0 Monitoring, Audit and Evaluation

Managers are required to monitor and audit the implementation of this Policy within their area of responsibility using the checklist in Part B, Appendix VIB and maintain evidence of same implementation of this Policy shall be audited periodically at national level and by the National Health and Safety Function.

7.0 Revision/Update

This Policy shall be reviewed at national level every three years or earlier if circumstances require it.

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Additional Resources

A useful website for further information on latex allergy for patients including patient fact sheet, advice on precautions in schools etc. Also contains information on latex allergy for HCWs including product information and latex content.

http://www.anaphylaxis.org.uk/?s=latex+allergy

Health and Safety Authority (HSA) Website:

Web site hosted by the American Latex Allergy Association which includes information on Latex free product.

http://www.hsa.ie/eng/Your_Industry/Healthcare_Sector/Latex_Gloves_Information_Sheet.pdf

http://latexallergyresources.org/ -

9.0 Appendices

Appendix IB **Signature Sheet**
Appendix IIB **Membership of the Policy Development Group**
Appendix IIIB **Membership of the Approval Governance Group**
Appendix IVB **Glossary of Terms/Definitions/Abbreviations**
Appendix VB **Implementation Plan**
Appendix VIB **Audit Checklist for the implementation of the HSE Policy on the Prevention and Management of Latex Allergy 2022**

Appendix IB Signature Sheet

I have read, understand and agree to adhere to this Policy:

Print Name	Signature	Area of Work	Date

Appendix IIB Membership of the Policy Development Group

Bríd Cooney, National Health and Safety Advisor (Policy Team)
Laura Regan, National Health and Safety Advisor, (Policy Team)
Professor John Gallagher, MB MMedSc FRCPI FFOMI, Occupational Physician, HSE South
Dr. Jean Engela, Specialist Registrar in Occupational Medicine, CUH
Anne-Louise Neenan, HBS Procurement
Elaine Sheridan, Health and Safety Administrative Support
Chairperson: Ms. Margo Leddy, National Health and Safety Manager (Policy Team)

Appendix IIIB Membership of the Approval Governance Group

Anne Marie Hoey, National Director HR	Signature: Date: 15.09.2022
Katrina Dempsey, Interim Head of the National Health and Safety Function	Signature: Date: 31.08.2022

Appendix IVB Glossary of Terms/Definitions/Abbreviations

IgE-mediated	IgE: Immunoglobulin E is a method used to qualify Type I hypersensitivity by measuring the amount of serum IgE contained within the patient's serum. This can be determined through the use of radiometric and colorimetric immunoassays. Even the levels the amount of IgE specific to certain allergens can be measured through use of the radioallergosorbent test (RAST).
Latex-free	The term used to describe products that are not manufactured from natural rubber latex
Latex-Safe	The term used to describe an environment that minimises the risk of a reaction occurring in sensitised or allergic individuals. This is achieved by removing the NRL products that are the most likely to cause a reaction.
Type I Latex Allergy	Immediate Hypersensitivity. An immediate hypersensitivity reaction characterised by urticaria, conjunctivitis, rhinitis and occasionally threatening anaphylaxis. This is a reaction to the latex sap proteins due to IgE antibody.
Type IV Latex Allergy	Delayed Hypersensitivity. Characterised by an eczematous rash often developing hours after exposure. Possible causes include latex proteins or chemical/accelerating agent residues, such as thiurams or carbamates, used in latex and nitrile glove processing. This reaction predisposes individuals to developing Type I allergy
Atopic	Individuals with the predisposition for atopy - A form of allergy in which there is a hereditary or constitutional tendency to develop hypersensitivity reactions e.g. hay fever, allergic asthma and atopic eczema in response to allergens. (Oxford Concise Medical Dictionary)

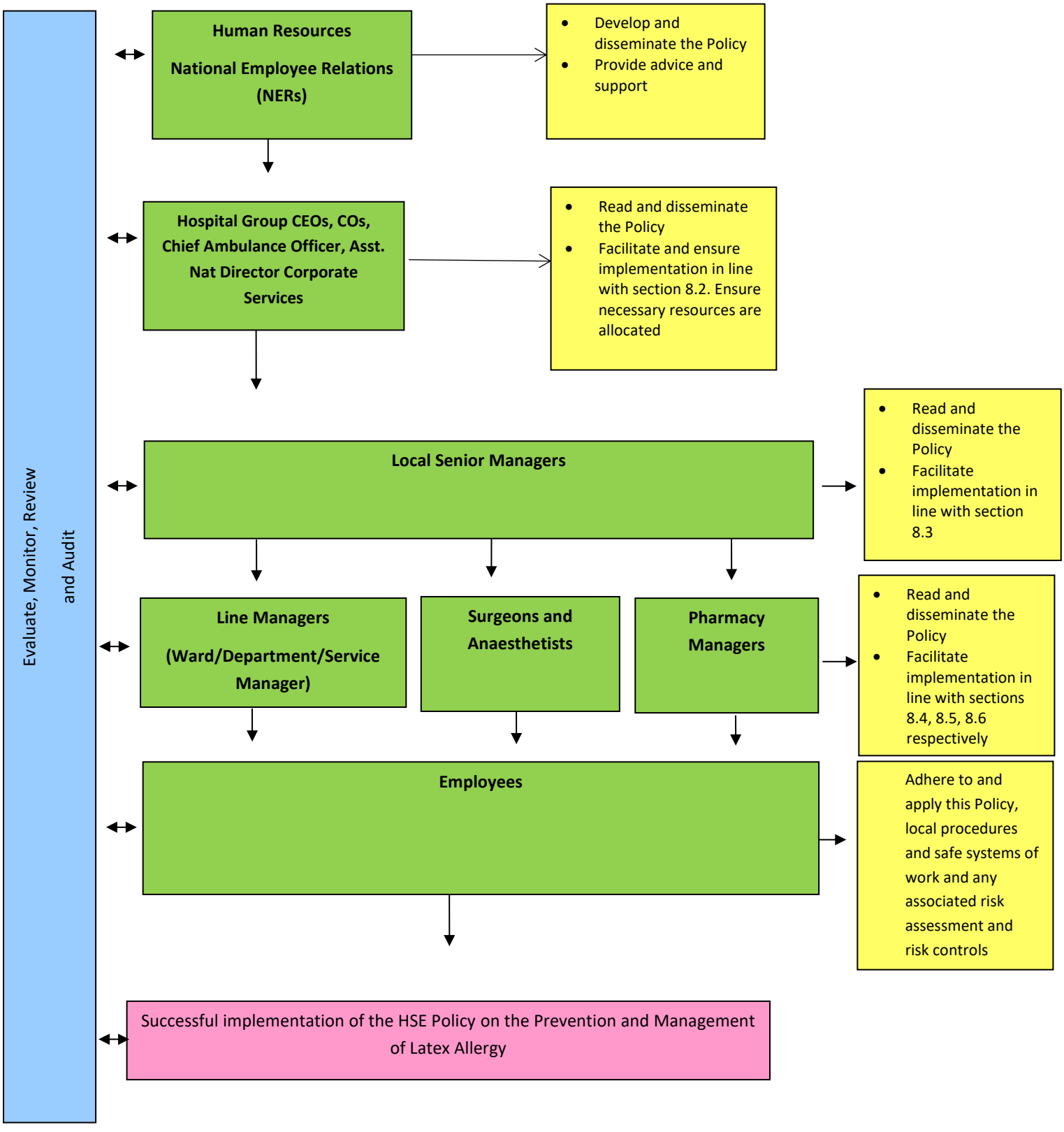
Abbreviations

AND	Assistant National Director
BP	Blood Pressure
Bi-PAP	Bilevel Positive Airway Pressure
CEO	Chief Executive Officer
CTG	Cardiotocography
DNR	Dry Natural Rubber
EU	European Union
ECG	Electrocardiogram
GP	General Practitioner
HSE	Health Service Executive
HCW	Health Care Worker
HSA	Health and Safety Authority
IUD	Intrauterine Device
LASG	Latex Allergy Support Group (now part of Anaphylaxis Org.uk)

ND	National Director
NIRF	National Incident Report Form
NRL	Natural Rubber Latex
PACU	Post-Anesthesia Care Unit
PHN	Public Health Nurse
OHD	Occupational Health Department
PCA	Patient Controlled Analgesia

Appendix VB Implementation Plan

Implementation of this Policy forms an integral part of the Safety Management System and is underpinned by effective consultation, communication, supervision, monitoring, audit and review. The following flowchart illustrates the day to day implementation steps:



Appendix VIB Audit checklist for the Implementation of the HSE Policy on the Prevention and Management of Latex Allergy 2022

Audit Checklist Questions		Policy Clause	Yes	No	N/A	Action required	Action owner	Time frame
1	Is there a system in place for the appropriate circulation/communication of this Policy to all HCWs?	8.2.1						
2	Does each department / unit have access to the Policy?	8.4.12						
3	Have the roles and responsibilities as outlined in Section 8.0 been communicated to all relevant personnel?	8.1-8.7						
4	Have risk assessments for potential exposure to NRL been completed in line with the process outlined in Section 2.0?	8.4.2						
5	Have the control measures identified through the risk assessment process been implemented?	8.4.2						
6	Have control measures been evaluated (proactively and reactively) to determine their effectiveness?	8.3.8						
7	Are specific risk assessments completed for patients and HCWs who are identified as being allergic to NRL?	8.4.3						
8	Have the controls measures identified through the specific risk assessment been implemented?	8.4.3						
9	Are latex free products procured and used in so far as is reasonably practicable?	8.4.8						
10	Has appropriate information, instruction, training and supervision been provided to all HCWs based on risk assessment?	8.3.5 8.4.12						
11	Is there a procedure in place for reporting all incidents in line with the HSE Incident Management Framework?	8.3.7 8.4.17						
12	Is there a system in place to refer HCWs who develop symptoms suggestive of NRL to Occupational Health?	8.4.15						
13	Is there a system in place to monitor compliance with this Policy?	8.3.10						

Action Plan: Each criterion that scored 'no' must have a comment placed in the comment column – this comment will form the basis of your Quality Improvement Plan (QIP)/Action Plan