Clinical

Glove: Standard Operating Procedure

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1. Introduction

The use of personal protective equipment (PPE) is essential for health and safety. When considering Infection Prevention and Control (IPC), a risk assessment may be required in order to decide which PPE is most appropriate for the task/situation. Wearing PPE offers protection to both service users and staff and is part of the IPC standard precautions. The wearing of gloves will protect workers from exposure to blood borne viruses, especially where there is a risk of injury such as a puncture wound with contaminated sharps, or abrasions or cuts.

Gloves should be worn to;

- Provide a protective barrier
- Prevent contamination of the hands with organic matter and micro-organisms when exposed to blood, body fluids and non intact skin
- Prevent the transmission of micro-organisms present on the hands of staff during invasive or other patient care procedures

2. Purpose

South Staffordshire and Shropshire Healthcare NHS Foundation Trust is committed to the protection of staff, patients and the public from the transmission of blood borne viruses and to minimising the risk presented by sensitisers, such as latex protein. The Trust recognises its responsibilities under the Health and Safety at Work Act (1974), the Control of Substances Hazardous to Health Regulations (COSHH 2002) the Personal Protective Equipment Regulations 1992 and the European Standards for glove usage.

This policy aims to ensure therefore that the purchase, selection and usage of gloves complies with all relevant legislative requirements and follows available expert guidance from the fields of occupational health and IPC.

The Trust does not advocate the use of Natural Rubber Latex, in Glove usage, in clinical settings. The Trust recognises that NRL is a substance hazardous to health and so Control of Substances Hazardous to Health (COSHH) applies. It is a respiratory sensitisier and a major cause of occupational asthma. Exposure to Natural Rubber Latex (NRL) should be
prevented or, where this is not reasonably practicable, it should be adequately controlled (COSHH regulation 7).

The benchmark for exposure to asthmagens, in circumstances where the risks are adequately addressed by elimination/sub situation of NRL is ‘nil’ or ‘negligible’

For risk assessment queries, please refer to the non clinical risk assessment and management policy.

3. Scope

This policy applies to all staff of the South Staffordshire and Shropshire Healthcare NHS Foundation Trust. The policy is inclusive of Visitors to the Trust premises such as Contractors, Locum and Bank staff, Students and Volunteers.

4. Glove Selection

Gloves worn need to be appropriate to the work being carried out and to the materials being handled, it is recommended that gloves be worn whenever contamination might occur, risk of direct contact with body fluids, or where there is a potential of skin damage from chemicals, detergents etc. Unnecessary and inappropriate use of gloves should be avoided in order to protect the well being of both patients and staff.

The choice of gloves and when to wear gloves
The choice of glove should be made following a risk assessment of the nature of the task, the risk to the patient and the risk to the HCW.

Factors to be considered in a risk assessment

- the likelihood of exposure to blood, body fluids
- the length of the procedure
- whether or not a sterile glove is required
- potential contact with any chemicals, drugs or other substances
- the need for dexterity and tactility

The Glove Pyramid (adapted from WHO Save lives – Hand hygiene leaflet) – to aid decision making on when to wear (and not wear) gloves
Gloves should be worn by all HCW’s when there is anticipated contact with blood or body fluids irrespective of the known or suspected infectious status of the patient. The pyramid details some clinical examples in which gloves are not indicated, and others in which examination or sterile gloves are indicated.
STERILE GLOVES INDICATED
Any surgical procedure; vaginal delivery; invasive radiological procedures; performing vascular access and procedures (central lines); preparing total parental nutrition and chemotherapeutic agents.

EXAMINATION GLOVES INDICATED IN CLINICAL SITUATIONS
Potential for touching blood, body fluids, secretions, excretions and items visibly soiled by body fluids.

DIRECT PATIENT EXPOSURE: Contact with blood; contact with mucous membrane and with non-intact skin; potential presence of highly infectious and dangerous organism; epidemic or emergency situations; IV insertion and removal; drawing blood; discontinuation of venous line; pelvic and vaginal examination; suctioning non-closed systems of endotracheal tubes.

INDIRECT PATIENT EXPOSURE: Emptying emesis basins; handling/cleaning instruments; handling waste; cleaning up spills of body fluids.

GLOVES NOT INDICATED (except for CONTACT precautions)
No potential for exposure to blood or body fluids, or contaminated environment

DIRECT PATIENT EXPOSURE: Taking blood pressure; temperature and pulse; performing SC and IM injections; bathing and dressing the patient; transporting patient; caring for eyes and ears (without secretions); any vascular line manipulation in absence of blood leakage.

INDIRECT PATIENT EXPOSURE: Using the telephone; writing in the patient chart; giving oral medications; distributing or collecting patient dietary trays; removing and replacing linen for patient bed; placing non-invasive ventilation equipment and oxygen cannula; moving patient furniture.
The Table below can also be used for guidance on Glove wearing and selection

<table>
<thead>
<tr>
<th>Sterile Gloves</th>
<th>Gloves not Needed</th>
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<tbody>
<tr>
<td>Catheter insertion</td>
<td>Washing bathing/nail care/shaving</td>
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<tr>
<td>Minor surgical procedures</td>
<td>Mouth care</td>
</tr>
<tr>
<td>Removal of clips. Sutures/drains</td>
<td>Eye care unless eyes are infected</td>
</tr>
<tr>
<td>Acute surgical wound dressings</td>
<td>Applying moisturisers/ body lotions to unbroken skin</td>
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<tr>
<td></td>
<td>Bed making</td>
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<td></td>
<td>Assisted feeding</td>
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Non Sterile Gloves

| Administration of intravenous drugs         | PEG tube care and connection of giving set                  |
| Securing clinical waste bags and sharps containers | Handling soiled linen/ clothing                         |
| Oral/ tracheal suctioning/ tracheostomy care/ emptying suction jars | Catheter removal                                       |
| Catheter care/ emptying drainage bag/ applying urosheath | Rectal examination/ administering suppositories/ enema |
| Chronic wound dressings (e.g. leg ulcers)   | Changing giving sets                                      |
| Using bladder management solutions          | Cleaning equipment (mattresses, commodes, etc.)            |
| When barrier/ contact precautions are advised | Obtaining specimen of urine/ faeces/ sputum/ wound swab |
| Cleaning faeces/ urine (inco pads/ nappies/ spillages/ changing stoma bag) | Podiatry                                                 |
| Oro-motor assessment (speech therapy)       | Administration of cytotoxics/ methotrexate                 |

To provide necessary protection, household type gloves must be worn for domestic duties.

Heavy-duty gloves must be available to provide protection against heat, sharp tools and maintenance tasks.

Polythene gloves must not be used, as they are not fit for purpose of protection against exposure to blood borne viruses. They are loose fitting and will easily perforate and will not conform to European standards, especially for tear resistance.

Gloves can tear or puncture visibly during use or leakage may occur through microscopic holes. Hands may also become contaminated as gloves are removed.

**Gloves Must Not be Seen as a Substitute for Good Hand Hygiene!**
5. Safe Practice in Using Gloves

Gloves should cover the wrist; gloves with a longer cuff (gauntlets) may be necessary for some procedures.

Washing of gloved hands is unsafe practice and gloves must be disposed of after each care activity.

Hands should be washed and dried thoroughly prior to donning gloves, staff who have skin lesions, abrasions or laceration must cover these with an occlusive, waterproof dressing.

Gloves should be selected which are the correct fit for the user.

Clinical gloves are manufactured as 'single use' items and should be changed between each patient to prevent the risk of cross infection. It may also be necessary to change gloves between tasks on the same patient to prevent unnecessary cross contamination.

Household and workman gloves may be reused providing they are not damaged. Torn, punctured or otherwise damaged gloves should not be used and should be removed immediately, safety permitting if this occurs during a procedure.

Gloves should not be worn for periods of time longer than actually necessary to complete the task.

To minimise the risk of damage to gloves healthcare staff must

- Keep nails short and avoid wearing artificial nails
- Avoid wearing rings with stones which interfere with hand washing, make putting on gloves more difficult and have the potential to tear the glove

When removing potentially contaminated gloves it is important to ensure you do not transfer the contaminate on to your skin, with disposable gloves it is best to turn them inside out as they are removed and dispose of immediately.

Gloves which are opened should be stored in the original box to ensure the expiry date is known and the integrity maintained.
6. Putting on and removal of non-sterile gloves - (adapted from WHO Save lives)

When the hand hygiene indication occurs before a contact requiring glove use, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water.

I. HOW TO DON GLOVES:

1. Take out a glove from its original box
2. Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff)
3. Don the first glove
4. Take the second glove with the bare hand and touch only a restricted surface of glove corresponding to the wrist
5. To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand
6. Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use

II. HOW TO REMOVE GLOVES:

1. Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out
2. Hold the removed glove in the gloved hand and slide the fingers of the ungloved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove
3. Discard the removed gloves

4. Then, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water

The use of gloves as part of infection control within healthcare has risen exponentially during the 1990s. There are a number of different types of gloves available.
7. Latex Gloves

The latex protein in latex gloves has the potential allergy to the staff and patient therefore, the use of **latex gloves must be restricted** when it is essential and there is no non-latex gloves are suitable for the purpose. This is likely to be the case in two circumstances:

1. **Surgical procedures**: The superior tactile sensitivity, elasticity, the better fit and user familiarity may be critical for the procedure.

2. **Protection against a chemical substance**: The chemical substance can seep through the gloves or damage the gloves and its barrier properties. The interaction between chemicals and glove material vary between substances. There are suitable non-latex gloves available for most chemicals used in the hospitals. Further guidance can be obtained by contacting Health and Safety department and Occupational Health departments.

The manager will document the reason for selecting latex gloves in a specific risk assessment matrix. Only powder free latex gloves with extractable protein level of less than 50 micrograms/gram (measured by the modified Lowry assay) will be used in such circumstances.

Where latex gloves are used, users must be provided with information on the risk of latex allergy, information on how to recognise possible allergic reactions to latex and on the need to report suspicion of allergic reactions to the Occupational Health Service.

8. Synthetic Gloves

Some synthetic rubbers have been developed as an alternative to NRL and they are described below.

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<tr>
<th>Glove material</th>
<th>Strengths</th>
<th>Weaknesses</th>
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| Nitrile        | a) Good fit and dexterity  
b) Good chemical resistance  
c) Reliable barrier against viral and blood-borne pathogens  
d) High resistance to tear and punctures | a) Risk of developing chemical allergies and irritant contact dermatitis  
b) Not biodegradable  
c) Moderate to high cost |
| Vinyl          | a) Vinyl gloves made to European Community Standards provide the same level of protection as natural rubber latex  
b) No documented allergies or other skin reactions.  
c) New developments in vinyl gloves provide improved fit and dexterity.  
d) Low cost. | a) Not biodegradable |
9. Latex Sensitivity

Sensitization is a potential problem for anyone who has contact with natural rubber latex (NRL). Latex sensitization can affect both healthcare workers and patients.

Natural rubber latex (NRL) can be found in many products within healthcare settings. It has been extensively used in manufacture of medical gloves (no 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. It is also used in a range of medical devices. As the use of such products has increased, particularly the increased use of single use gloves in infection control, NRL allergy and sensitization has been identified as a problem.

Information – Natural Latex Rubber

NRL exposure can lead to a number of health problems including:

Irritation, the symptoms of which include redness, soreness, dryness or cracking of the skin in areas exposed to NRL. This type of reaction is not an allergy response. Once the irritant agent has been identified and its use discontinued, the symptoms will disappear and not reoccur.

Type 1 allergic reactions, the symptoms of which include localised or generalised rash (urticaria), inflammation of the mucous membranes in the nose (rhinitis), red and swollen eyes with discharge (conjunctivitis) and asthma-like symptoms. This is an allergic response to the extractable latex proteins and occurs almost immediately on contact. In rare cases it may result in anaphylactic shock. These reactions can occur as a result of skin contact with NRL or inhalation of latex proteins through the use of powdered NRL gloves.

Type IV allergic reactions, the symptoms of which include dermatitis and itching with oozing red blisters, which is usually localised to sites of exposure. It occurs between 10-24 hours after exposure and can get worse over the subsequent 72 hours. This is an allergic response to the chemical additives, known as accelerators, used in the manufacture.

It is also important to note that increasing numbers of cases of asthma and contact dermatitis attributed to NRL have been reported over the last decade. There are a number of possible reasons for this: increasing awareness of the problem; increased use of NRL gloves and other equipment; and/or changes in the type of NRL gloves used.

10. NRL in Healthcare Settings

Other Medical Products. NRL is not only contained within single use disposable gloves, but can also be found in a number of medical products, such as catheters, condoms, elasticated bandages, wound dressings, etc. It can also be found in the packaging for a number of medial 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.

11. Health and Safety

NRL is a substance hazardous to health and so COSHH applies. It is a respiratory sensitiser and a major cause of occupational asthma. An assessment of the risks to health created by work involving NRL should be undertaken (regulation 5). Exposure to NRL should be prevented or, where this is not reasonably practicable, it should be adequately controlled (COSHH regulation 7).
Staff Awareness

- In the event of the development of any skin problems please report to line manager and then to Occupational Health Service.

- Appropriate, alternative gloves will be recommended to those individuals who are sensitised to natural rubber latex proteins and/or the residual accelerators. These gloves will be a different colour in order to distinguish them from NRL gloves.

- Cost implications – the possibility of litigation, redeployment and re-training of staff are all potential costs incurred if NRL allergies are ignored.

12. Glove Ordering

Staff should order the gloves following current advice from e procurement

13. Process For Monitoring Compliance And Effectiveness

<table>
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<tr>
<th>Aspect of compliance or effectiveness being monitored</th>
<th>Monitoring method</th>
<th>Individual or department responsible for the monitoring</th>
<th>Frequency of the monitoring activity</th>
<th>Group/Committee/forum which will receive the findings/monitoring report</th>
<th>Committee/individual responsible for ensuring that the actions are completed</th>
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<tr>
<td>Compliance with Glove policy</td>
<td>Annual Infection Prevention and control audits and essential steps audit</td>
<td>Infection Prevention and Control team</td>
<td>Annual</td>
<td>Infection Prevention and Control Committee</td>
<td>Matrons and Ward Managers</td>
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<td>Organisation's expectations in relation to staff training, as identified in the training needs analysis</td>
<td>Training Reports</td>
<td>Learning and Development Department</td>
<td>Monthly</td>
<td>HRODE Committee</td>
<td>HRODE Committee</td>
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14. References


10 Health Protection Scotland (2009) Standard Infection Control Precautions policies