

SBAR: Use of gloves for environmental cleaning

Situation	<p>The National Infection Prevention and Control Manual for NHSScotland – Chapter 1: Standard Infection Control Precautions (SICPs) Policy¹ was published in January 2012. This mandatory evidence based guidance is for use by all staff in all healthcare settings whether infection is known to be present or not to ensure the safety of patients, staff and visitors. They are the basic infection prevention and control measures necessary to reduce the risk of transmission of microorganisms from both recognised and unrecognised sources of infection. There are ten elements of SICPs one of which is Personal Protective Equipment (PPE).</p> <p>Currently there is variation in practice between the nursing staff and domestic staff with respect to glove selection for environmental cleaning tasks. While within the majority of NHS boards, disposable non sterile latex/nitrile or neoprene gloves are used by domestic staff, in a small number of NHS boards reusable ‘marigold’ household type gloves are worn.</p> <p>This SBAR aims to:</p> <ul style="list-style-type: none"> ○ examine the scientific evidence underpinning re-usable gloves (including cotton glove liners) within the healthcare setting and whether this poses a risk to patients, staff and visitors. ○ determine whether consistent guidance across staff groups on glove selection for environmental cleaning can be established.
------------------	--

<p>Background</p>	<p>Discussion at the Domestic Services Advisory Group highlighted that there are a number of different practices in place across NHS Scotland with respect to the choice of gloves worn for environmental cleaning purposes.</p> <p>One NHS Board subsequently sent their local Standard Operating Procedure (SOP) for PPE which recommends the use of reusable (Marigold type) gloves by domestic staff. The justification for reusable glove use based on the fact that they are worn when cleaning duties involve constant hand wetting. This SOP advises the use of single use disposable gloves for use in outbreak situations and isolation room cleaning.</p>
<p>Assessment</p>	<p>Gloves are worn during environmental and equipment cleaning:</p> <ul style="list-style-type: none"> • To provide protection from chemicals cleaning agents. • To provide protection from microorganisms in the environment. <p>Protection from chemicals (e.g. cleaning agents)</p> <p>The law necessitates that employers make appropriate assessments of the risks to health from exposure to chemical agents at work to comply with the Health and Safety at Work Act and Control of Substances Hazardous to Health Regulations (COSHH).^{2;3}</p> <p>Additional factors should also be considered when choosing an appropriate glove e.g. length of cuffs etc.²</p> <ul style="list-style-type: none"> ○ To protect the hands from ‘wet work’ the glove of choice must meet the European Standard EN374-2.⁴ ○ If exposure to chemical agents is anticipated the glove of choice must also meet EN374-3. <p>A review of single use disposable gloves highlighted that there are many gloves on the market which meet the appropriate EN standards. However it was recognised that marigold ‘type’ gloves which are marketed for household use, are not specifically promoted for use in healthcare.</p>

For infection prevention and control i.e. to provide protection from microorganisms in the environment to prevent onward transmission

An evaluation of the issues and risks associated with the environment in terms of HAI demonstrated that 42.7% of microbiology reports within the HAI Prevalence survey⁵ were microorganisms known to survive for extended duration in environment conditions.⁶ Therefore organisms which have the ability to survive in the environment for extended periods can potentially be spread by gloves worn by staff during cleaning of the environment. There is a robust scientific evidence base which, irrespective of healthcare setting, glove type, clinical specialty, or procedure is consistent in its recommendations relating to when gloves should be changed or removed.⁷⁻²⁶ The relevant points are summarised below:

- Gloves are a single-use item and should be changed after each use or upon completion of a task e.g. when changing your cloth to move on to the next task.
- Gloves must never be decontaminated, for example with soap and water or alcohol based hand rub.
- Gloves must be changed if a perforation or puncture is suspected or identified.
- Gloves must be changed after contact with cleaning chemicals which may compromise the barrier integrity of the glove.

To ensure no cross transmission of micro-organisms during the process of cleaning the environment, single use disposable gloves should be used. This is consistent with the evidence based advice within the National Infection Prevention and Control Manual.

Conclusion

To ensure that there is no cross transmission of micro-organisms during the process of cleaning the environment, single use disposable gloves should be worn.

Recommendation	<p>Single use disposable gloves which meet the recommended EN standards should be:</p> <ul style="list-style-type: none">• Worn for environmental cleaning.• Changed after each use or upon completion of a task e.g. when changing your cloth to move on to the next task.• Never be decontaminated, for example with soap and water or alcohol based hand rub.• Changed if a perforation or puncture is suspected or identified.• Changed after contact with cleaning chemicals which may compromise the barrier integrity of the glove.
-----------------------	--

Reference List

- (1) Health Protection Scotland. National Infection Prevention and Control Manual. HPS 2012. Available from: URL: <http://www.hps.scot.nhs.uk/haic/ic/nationalinfectionpreventionandcontrolmanual.aspx>
- (2) Selecting protective gloves for work with chemicals. Health & Safety Executive 2000 [cited 2012 Nov 6]; Available from: URL: <http://www.hse.gov.uk/pubns/indg330.pdf>
- (3) RCN guidance for health care staff on glove use and the prevention of contact dermatitis. Royal College of Nursing 2012 [cited 2012 Nov 6]; Available from: URL: http://www.rcn.org.uk/_data/assets/pdf_file/0003/450507/RCNguidance_glovesdermatitis_WEB2.pdf
- (4) Health and Safety Executive. Choosing the right gloves to protect skin: a guide for employers. HSE 2011 [cited 2013 May 30]; Available from: URL: <http://www.hse.gov.uk/skin/employ/gloves.htm>
- (5) Health Protection Scotland. Scottish National Point Prevalence Survey of Healthcare Associated Infection and Antimicrobial Prescribing 2011. 2012.
- (6) Kramer A, Schwebke I, Kampf G. How long do nosocomial pathogens persist on inanimate surfaces? A systematic review. BMC Infect Dis 2006;6:130.
- (7) AORN Recommended Practices Committee. Recommended practices for surgical attire. AORN Journal 2005 Feb;81(2):413-20.
- (8) Association of Anaesthetists of Great Britain and Ireland.. Infection control in anaesthesia. Anaesthesia 2008 Sep;63(9):1027-36.
- (9) Association of periOperative Registered Nurses. Recommended practices for prevention of transmissible infections in the perioperative practice setting. AORN Journal 2007 Feb;85(2):383-96.
- (10) Bernthal L. Two gloves or not two gloves: that is the question. Br J Perioperative Nursing 2000 Feb. 10(2).
- (11) Chambers CEE. Infection control guidelines for the cardiac catheterization laboratory: Society guidelines revisited. Catheterization and Cardiovascular Interventions 2006 Jan;67(1):Jan.
- (12) Flores A. Appropriate glove use in the prevention of cross-infection. Nurs Stand 2007 9 May. 21(35).
- (13) Flores A. Sterile versus non-sterile glove use and aseptic technique. Nurs Stand 2008 Oct 15;23(6):35-9.
- (14) Graves P. The changing face of hand protection. AORN J2002 Aug. 76(2).
- (15) Hampton S. The appropriate use of gloves to reduce allergies and infection. Br J Nursing 2002 26 Sep. 11(17).

- (16) Hampton S. Nurses' inappropriate use of gloves in caring for patients. *Br J Nursing* 2003 25 Sep. 12(17).
- (17) Hitoto H, Kouatchet A, Dube L, Lemarie C, Mercat A, Joly-Guillou ML, et al. Factors affecting compliance with glove removal after contact with a patient or environment in four intensive care units. *J Hosp Infect* 2009 Feb;71(2):186-8.
- (18) Hunte C. Choosing the right glove for the right purpose. *Prof Nurse* 2004 Nov. 20(3).
- (19) Preston R. Aseptic technique: evidence-based approach for patient safety. *Br J Nursing* 2005 26 May. 14(10).
- (20) Tanner J, Tanner J. Choosing the right surgical glove: an overview and update.. *Br J Nurs* 2008 Jun 26;17(12):740-4.
- (21) Truscott W. Factors that impact on the infection control capability of gloves. *Prof Nurse* 2003 May. 18(9).
- (22) Woodhead K, Taylor EW, Bannister G, Chesworth T, Hoffman P, Humphreys H, et al. Behaviours and rituals in the operating theatre. A report from the Hospital Infection Society Working Party on Infection Control in Operating Theatres. *J Hosp Infect* 2002 Aug;51(4):241-55.
- (23) Pratt RJ, Pellowe CM, Wilson JA, Loveday HP, Harper PJ, Jones SR, et al. epic2: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *J Hosp Infect* 2007 Feb;65 Suppl 1:S1-64.
- (24) Siegel JD, Rhinehart E, Jackson M, Chiarello L. 2007 guideline for isolation precautions: preventing transmission of infectious agents in health care settings. *Am J Infect Control* 2007 Dec 2;35(10):S65-164.
- (25) World Health Organization. WHO guidelines on hand hygiene in health care: first global patient safety challenge clean care is safer care. Geneva: WHO; 2009.
- (26) Boyce JM, Pittet D, Healthcare Infection Control Practices Advisory Committee. Society for Healthcare Epidemiology of America. Association for Professionals in Infection Control. Infectious Diseases Society of America. Hand Hygiene Task Force. Guideline for Hand Hygiene in Health-Care Settings: recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. *Infect Control Hosp Epidemiol* 2002 Dec;23(12 Suppl):S3-40.

Appendix 1 - Medline Search Strategy (Domestic Gloves & Outbreaks)

1	AND	2	AND	3
Gloves, Protective/ ((Domestic or cleaning or utility or marigold or rubber or household) and glove\$).tw.		Housekeeping, Hospital/		Cross infection/ Disease Outbreaks/ exp Infection Control/

Limits – English