

<b>SBAR:</b> <b>Re-use of domestic gloves for cleaning within the healthcare environment</b>	
<b>Situation</b>	<p>The current National advice on glove use within the National Infection Prevention and Control Manual<sup>1</sup> and approved SBAR<sup>2</sup> is the use of single use disposable gloves for equipment and environmental decontamination.</p> <p>HPS were contacted by an NHS Board requesting expert advice regarding the re-use of domestic (marigold style) cleaning gloves within the healthcare environment.</p>
<b>Background</b>	<p>In response to an enquiry on the use of gloves for environmental cleaning in healthcare settings in 2013, Health Protection Scotland (HPS) published an SBAR which concluded that single-use disposable gloves should be worn for environmental cleaning and that gloves should never be decontaminated for reuse.<sup>2</sup> The SBAR was approved as national policy by the National Advisory Group (6<sup>th</sup> November 2013).</p> <p>Concern was expressed by a Health and Safety Team in two boards that single use disposable nitrile gloves would not offer the domestic staff appropriate skin protection and have continued to endorse the use of marigold type gloves.</p> <p>A further request was made to HPS to further review the evidence base for the risk of acquiring a healthcare-associated infection (HAI) from the reuse and/or decontamination of gloves.</p>
<b>Assessment</b>	<p>Employers must comply with health and safety legislation. In particular the Control of Substances Hazardous to Health Regulations 2002<sup>3</sup> and the Personal Protective Equipment at Work Regulations 1992<sup>4</sup> (as amended) including assessment of risks, provision of adequate control measures, information, instruction and training, health surveillance in appropriate cases.</p> <p>The National Infection Prevention and Control Manual (NIPCM) for NHS Scotland currently recommends that gloves must be “changed immediately after each patient and/or following completion of a procedure or task,” including equipment and environment decontamination.<sup>1</sup></p>

<p><b>Assessment cont</b></p>	<p>A rapid review of the evidence base for the risk of acquiring a healthcare-associated infection (HAI) from the reuse and/or decontamination of gloves was undertaken. Academic databases were searched to identify relevant academic and grey literature. The two specific research questions were;</p> <p>(1) What are the HAI risks of reusing gloves?  (2) What are the HAI risks of using alcohol-based hand rub (ABHR) on gloves, rather than changing gloves?</p> <p>The search found 588 articles. After the screening process, this number was reduced to 5 articles to critically appraise. The studies used different methodologies and included a consensus guideline,<sup>5</sup> a time series analysis,<sup>6</sup> a case-control study,<sup>7</sup> a cross-sectional study<sup>8</sup> and a laboratory-based experimental study.<sup>9</sup> The level of evidence for each study varied from 2- to 4.</p> <p>(1) What are the HAI risks of reusing gloves?</p> <p>Items of personal protective equipment (PPE), including gloves, are able to act as fomites with the potential for cross-transmission of nosocomial pathogens in healthcare settings.<sup>6,8,9</sup> It is therefore recommended that items of PPE should be replaced every time the wearer comes into contact with a new patient or a new patient's surroundings. This guidance is repeated by the National Infection Prevention and Control Manual.<sup>1</sup></p> <p>(2) What are the HAI risks of using alcohol-based hand rub (ABHR) on gloves, rather than changing gloves?</p> <p>The World Health Organisation provides clear recommendations that gloves "should not be washed, decontaminated, or reprocessed for any reuse purpose"; the concern being that decontamination practices may damage the material integrity of gloves and impair their protective function.<sup>5</sup> In particular, it is noted that "cleansing plastic-gloved hands with an alcohol-based formulation leads to early dissolving of the plastic material".<sup>5</sup> Although the use of ABHR on double gloves has been applied within the context of a SARS outbreak, it is not recommended for routine use.<sup>7</sup></p>
<p><b>Recommendation</b></p>	<ul style="list-style-type: none"> <li>• HPS advise gloves should be changed in accordance with the guidance set out in the NIPCM and SBAR. Immediately after each patient and/or following completion of a procedure or task.</li> <li>• For environmental decontamination single use disposable gloves should be worn.</li> <li>• Domestic(Marigold style) cleaning gloves can be used for cleaning of the healthcare environment however these must be used as single use disposable and changed in accordance with the NIPCM as set out in point one above.</li> <li>• If domestic style gloves are worn they must be approved for use within the healthcare setting.</li> <li>• Health and safety law requires that gloves provided as personal protective equipment should be appropriate to the task being undertaken. Guidance is available on the HSE website <a href="http://www.hse.gov.uk/skin/employ/gloves.htm">http://www.hse.gov.uk/skin/employ/gloves.htm</a>.<sup>10</sup></li> </ul>

## Appendix:

### Search Terms

The following databases were searched to identify relevant academic and grey literature:

- MEDLINE
- EMBASE
- CINAHL
- NHS Evidence (<http://www.evidence.nhs.uk/>)
- National Patient Safety Agency (<http://www.npsa.nhs.uk/>)

Search terms were developed and adapted to suit each database. Literature searches were run on 06/05/2016. An example search run in the MEDLINE database follows.

Ovid MEDLINE(R) 1946 to present with daily update

AND	
1 (all "OR")	2 (all "OR")
Gloves, Protective/ (reus\$ adj2 glove\$).tw. (household adj2 glove\$).tw. (rubber adj2 glove\$).tw. (heavy duty adj2 glove\$).tw.	Cross Infection/ healthcare associated infection\$.tw. hospital associated infection\$.tw. healthcare acquired infection\$.tw. hospital acquired infection\$.tw. nosocomial infection\$.tw. nosocomial pathogen\$.tw.

## References

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- (4) Her Majesties Government. The Personal Protective Equipment at Work Regulations. Crown. 1992. Available at: <http://www.legislation.gov.uk/ukxi/1992/2966/regulation/3/made>
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- (7) Yen M-Y, Lin Y-E, Su I-J, Huang F-Y, Ho M-S, Chang S-C, Tan K-H, Chen K-T, Chang H, Liu Y-C, Loh C-H, Wang L-S, Lee C-H. Using an integrated infection control strategy during outbreak control to minimize nosocomial infection of severe acute respiratory syndrome among healthcare workers. *J Hosp Infect* 2006; 62: 195–199.
- (8) Girou E, Chai SHT, Oppein F, Legrand P, Ducellier D, Cizeau F, Brun-Buisson C. Misuse of gloves: the foundation for poor compliance with hand hygiene and potential for microbial transmission? *J Hosp Infect* 2004; 57: 162–169.
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