Factors influencing glove use in student nurses

**In this article...**
- The role of gloves in infection control
- Student nurses’ use of gloves
- Risks of overuse of gloves

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**Background** Gloves can prevent infection but their use among student nurses is inconsistent.

**Aim** To explore pre-registration student nurses’ views of non-sterile glove use in clinical practice.

**Method** An online survey was conducted and focus groups carried out among third-year student nurses.

**Results** The online survey showed that gloves were often worn inappropriately, while the focus groups revealed students conformed to their mentors’ use of gloves.

**Discussion** Student nurses’ decisions on wearing gloves seem to be based on the culture of the clinical care environment rather than trust policy. Glove overuse deprives patients of therapeutic touch and may lead to contact dermatitis in nurses.

**Conclusion** All student nurses must be able to identify clinical situations when gloves are not indicated, using appropriate risk assessment.

Infection prevention and control are integral to pre-registration nurse education and practice (Nursing and Midwifery Council, 2010). A vital part of this education is enabling students to understand appropriate glove use in clinical practice. This pilot study explored student nurses’ glove use when carrying out routine, non-invasive nursing interventions such as bed making, personal cleansing and dressing, and recording vital signs.

Wearing gloves as a routine measure may have implications for the nurse-patient relationship, as gloves may act as a barrier to therapeutic touch (Gleeson and Timmins, 2005). There are also implications linked to inappropriate glove use including: costs; an increased risk of dermatitis during long-term glove use, with associated loss of employment (Royal College of Nursing, 2012); and a negative impact on hand hygiene (Loveday et al, 2014).

**Literature review**

The prevention and control of healthcare-associated infections (HCAIs) has always been an integral part of nursing practice. During the last decade, concern about the increase in HCAIs has led to a greater emphasis on infection prevention and control. The Epic guidelines for preventing HCAIs provide the most systematic and comprehensive advice, based on up-to-date evidence, to prevent the spread of HCAIs in acute care environments (Loveday et al, 2014). They state that gloves should be worn to:

- Protect hands from contamination with organic matter and micro-organisms;
- Reduce the risk of cross-transmission of micro-organisms to staff and patients (Loveday et al, 2014).

The guidelines also state there is evidence that clinical gloves are not used in line with current guidance, and that glove use has a negative impact on hand hygiene (Loveday et al, 2014). In England and Wales, the National Patient Safety Agency (2008) reinforced its 2004 CLEANCYR YOUH ANDS campaign with the message: “Clean hands save lives.” The Department of Health subsequently published a code of conduct to ensure that...

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Keywords: Student nurses / Infection prevention / Therapeutic touch / Gloves / Dermatitis

This article has been double-blind peer reviewed.
The aims of the study were to:

- Explore the views of pre-registration student nurses about non-sterile glove use in clinical practice;
- Identify the knowledge, skills and decision-making strategies employed by student nurses when considering whether to wear gloves during care delivery;
- Identify factors influencing decision making in the context of care delivery and care management.

**Method**

We chose to use a quantitative and qualitative approach, conducting an initial online survey using Survey Monkey, followed by two focus groups to obtain qualitative data. An invitation to participate in the study was displayed on the students’ virtual learning environment, and a sample population of 127 third-year student nurses in the final semester of the nursing programme was invited to take part.

Quantitative data from the survey was analysed, using descriptive statistics, to identify current knowledge, skills, decision-making strategies and wider contextual factors influencing student nurse practice. Twelve students volunteered to take part in two focus groups (six in each focus group). A simple thematic analysis was used to identify recurring themes from both focus groups.

Ethical approval for this pilot study was granted by the University of Salford Research Ethics Panel.

**Results**

Eighty-nine students completed the online survey, giving a response rate of 70%; 89%...
of these were female. A total of 97% of respondents were aware of their placement trust’s policy on infection prevention and control but only 76% stated they had read it, and only 58% had attended a trust study day on infection prevention and control. Respondents were asked whether nurses should wear gloves when conducting a variety of clinical activities. Table 1 outlines the findings; activities marked * are indications for glove use.

Respondents used free-text questions to describe in greater depth when they would use gloves. Comments included:

“Would use gloves. Comments included: ‘to describe in greater depth when they indicated for glove use.’

Focus group themes
Focus group themes included: conforming with observed practice; confusion over when to wear gloves; fear of touch; a need for protocols and guidelines; and sexual boundaries, touch and personalised care.

Conforming: While on clinical placement, participants conformed to the practices they observed. They internally questioned the use of gloves but adhered to whatever choice their mentor made: “I copy what everyone else does.”

If you see someone grabbing gloves and putting them on, you question why but automatically put them on.”

“My gloves use in practice has always been dictated by the area that I work in and watching and seeing what others do.”

Confusion: Participants reported feeling confused about when to wear/not wear, gloves:

“I do get confused about when, and when not, to wear gloves so I just wear them all the time.”

“I have been pulled [up] a few times over the last couple of years for not wearing gloves so I am confused and will read up [on the] protocols.”

This possibly displayed a lack of knowledge to underpin their decision making.

Fear of touch: Some participants reported a dislike of touching sweaty skin and worn clothes, as well as heavily soiled undergarments and sheets. There was also a presumption that all patients carried infection and that wearing gloves would protect against this:

“Gloves are an insurance policy.”

Need for protocols and guidelines: Participants said they would feel happier if they were given specific instructions on when, and when not, to wear gloves:

“There are no specific policies on any of the wards I have been on that actually states whether you use gloves or not. Most of the time they either wear gloves when they shouldn’t and don’t when they should.”

“There is not an actual policy or literature on when to wear gloves and when not to wear gloves.”

Sexual boundaries, touch and personalised care: Participants acknowledged the use of gloves as a sexual barrier. There was a recognition that touch is an important aspect of the therapeutic relationship and that wearing gloves, while possibly acting as a subliminal barrier to this relationship, is very much an individual decision. One male participant believed wearing gloves provided a sexual barrier when touching female skin:

“The issue to me is dignity … I had to do an [electrocardiogram] on a lady with very big breasts and I wanted to save her dignity, and it saved… the embarrassment of skin contact.”

Another participant applied a very personal perception of what touch meant:

“I wouldn’t want someone washing me with bare hands. I think how I would feel … so that is why I wear gloves. It’s private and I wouldn’t want people putting their hands over me!”

### Table 1. WHEN SHOULD NURSES WEAR GLOVES? (n=89)

<table>
<thead>
<tr>
<th>Clinical activity</th>
<th>Gloves, n (%)</th>
<th>No gloves, n (%)</th>
<th>Don’t know, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing patient’s hands and face</td>
<td>68 (76)</td>
<td>19 (21)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Washing patient’s body</td>
<td>78 (88)</td>
<td>10 (11)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Washing patient’s genitalia*</td>
<td>87 (98)</td>
<td>0 (0)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Showering and/or bathing patients</td>
<td>77 (87)</td>
<td>9 (10)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Emptying urinary catheter*</td>
<td>89 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Undertaking physiological observations</td>
<td>18 (20)</td>
<td>68 (76)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Bed making</td>
<td>60 (67)</td>
<td>26 (29)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Emptying urinary bottle or bedpan*</td>
<td>89 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Handling vomit or sputum*</td>
<td>89 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Brushing patient’s teeth</td>
<td>78 (88)</td>
<td>11 (12)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Eye care</td>
<td>78 (88)</td>
<td>9 (10)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Changing patient’s clothing</td>
<td>49 (55)</td>
<td>37 (42)</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Providing pressure relief</td>
<td>58 (65)</td>
<td>29 (33)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Changing dressings on peripheral cannula site*</td>
<td>89 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Serving food</td>
<td>38 (43)</td>
<td>49 (55)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Handling blood products*</td>
<td>84 (94)</td>
<td>5 (6)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Changing a stoma bag*</td>
<td>89 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Performing last offices</td>
<td>72 (81)</td>
<td>10 (11)</td>
<td>7 (8)</td>
</tr>
</tbody>
</table>
One participant recognised the importance of personalising care at meal times: “The thought of someone coming to me with gloves on would really put me off.”

“Having food is a social experience and you don’t want this to be turned into a clinical procedure.”

Discussion

Results from the study of 89 third-year student nurses in their third semester revealed inconsistencies in their clinical decision making and lack of an evidence base about the appropriate use of gloves during care delivery. Studies by Girou et al (2004) and Flores and Pevalin (2006) have discussed inappropriate glove use and the overuse of gloves in healthcare, resulting in gloves being worn for tasks that carry no risk to health professionals.

We also found that students often wear gloves appropriately – for example, 76% of study participants said they would wear gloves for washing a patient’s hands and face and 42% said they would wear gloves for changing patients’ clothes. In addition, 20% stated they would wear gloves when performing physiological observations. This correlates with Flores and Pevalin’s (2006) finding that nurses wore gloves when undertaking cardiovascular observations.

An emerging theme from the focus groups was that participants conformed to the practice observed by their mentors. The impact of role models and the culture in the clinical learning environment is well documented (Lee, 2013); it has been identified that student nurses subsume the culture and practice of those role models, which influences their acquisition of knowledge and skills (Wilkes, 2006; Donaldson and Carter, 2005; Higgins and McCarthy, 2005). Despite teaching evidence-based practice in glove use within a simulated environment, the theoretical gap is still evident.

Lee (2013) identified that nurses preferred to use gloves than alcohol gel, which is advocated by universal guidelines as best practice (WHO, 2009a). However, the inappropriate use of non-sterile disposable gloves may increase the transmission of micro-organisms. Hughes et al (2013) identified that unused non-sterile gloves became contaminated with skin commensals and pathogenic bacteria from healthcare workers.

Currently, glove use appears erratic in relation to the students’ clinical decision making and the subsequent cost may be high. This cost is not solely financial, however (Lee, 2013), as there is also the potential for an increase in contact dermatitis among healthcare staff (RCN, 2012).

Overuse of gloves may also create a barrier to the therapeutic use of touch, which may be detrimental to the nurse-patient relationship (Routasalo and Isola, 1996). Loveridge (2000) advocated the use of touch in nursing as it promotes care, compassion and empathy, which are vital elements of the therapeutic relationship. Indeed the NHS Commissioning Board and DH (2012) defined compassion as “how care is given through relationships based on empathy, respect and dignity.” Despite this, Lee (2013) found students had a clear aversion to direct contact with patients. Nazarko (2011) went as far as saying the inappropriate use of gloves is bad practice and can convey a negative message to the patient.

Limitations of the study

All fields of practice were not included in the study so the findings cannot be generalised. The survey questions did not specify “sterile” and “non-sterile” gloves, and there was the potential for misunderstanding in that they referred to glove use in general. Local trust infection prevention and control policies were not explored to ascertain the underpinning evidence to which students are expected to adhere in clinical practice.

Conclusion

The results of this small-scale study suggest the decision-making process on when to wear non-sterile disposable gloves is blurred. Student nurses participating in the study appeared to lack the underpinning knowledge necessary to determine appropriate glove use. Their decision making on when it is appropriate to wear gloves for routine care appeared to be influenced by role modelling and the culture of the clinical care environment, and not based on current evidence or trust policy.

It is evident that WHO (2009a) guidance has not been adopted by student nurses. It is important that all student nurses are able to use appropriate risk assessment to identify clinical situations when gloves are not indicated.

Further research could include a larger-scale study to include students from all fields of practice. Collaboration with local trusts could explore infection prevention and control policies and the underpinning evidence that supports these. Such research could also build on current evidence and better translate it into practice, through the development of a clear protocol for glove use, accompanied by an online learning resource that could be readily integrated into nurse education and continuing professional development activities.

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