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**Nursing
Times**

The main title text, 'Infection Control 4: Good Hand Hygiene Practice for Hospital Patients', is centered in a white serif font within a large teal hexagonal shape.

**Infection Control 4:
Good Hand Hygiene
Practice for Hospital
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Infection control 4: good hand-hygiene practice for hospital patients

Author Claire Chadwick is nurse consultant/assistant director infection prevention and control, Bradford Teaching Hospitals NHS Foundation Trust.

Abstract While good hand hygiene among health professionals is accepted as the cornerstone of infection prevention and control, patient hand hygiene has received less attention. This article reviews the evidence on the importance of patient hand hygiene and recommended good practice, and is accompanied by a poster, which can be photocopied, advising patients when and how to clean their hands.

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The transfer of micro-organisms between patients via the hands of healthcare workers is a major contributing factor in the spread of infection in hospitals (Loveday et al, 2014). Effective hand hygiene is therefore a cornerstone of good infection prevention and control practice. This article reviews the evidence on patient hand hygiene and includes a poster that can be photocopied and displayed in care environments to remind patients when to clean their hands.

The significance of patients' hands

The majority of research and educational material on hand hygiene focuses on health professionals. Far less attention has been paid to the role of patients' hands in the cross-transmission of micro-organisms or on strategies to improve patient hand hygiene (Loveday et al, 2014). More evidence has become available in the years since the publication of epic3 (Loveday et al, 2014), but the literature is still comparatively sparse and more is needed.

A systematic review by Banfield and Kerr (2005) indicated that patients' hands can transmit micro-organisms with the potential to cause infection, and suggested there is room for considerable improvement in patient hand hygiene. In a US study undertaken over several months in an acute care ward, more than 200 patients almost never cleaned their hands before, during or after visiting a patient kitchen/pantry area, and <35% washed their hands after using the toilet or before eating breakfast (Barker et al, 2014).

There is some evidence that improving patient hand hygiene can reduce rates of healthcare-acquired infection. A study undertaken in a cardiothoracic surgical step-down unit in the US found that improving patients' hand-hygiene practice reduced rates of infection with vancomycin-resistant enterococci and MRSA (Haverstick et al, 2017).

Improving patient hand hygiene

Meyers and King (2000) identified a lack of handwashing facilities as contributing to poor patient hand hygiene. While patients who are mobile can access bathroom

handwashing facilities, those who are confined to bed or have mobility problems are often unable to do so. A number of products have been introduced into hospitals to help improve patient hand hygiene in such situations, such as personal handwipes and alcohol-based handrub (ABHR) at the bedside. Barker et al (2014) found that 89.4% of patients thought a bottle of ABHR by the bed would be helpful, and 87.2% supported antimicrobial handwipes on food trays.

While ABHR is not advised for soiled hands or social hand hygiene, antimicrobial hand wipes have been shown to be as effective as soap and water in reducing transient micro-organisms from the hands when applied for 60 seconds (Wilkinson et al, 2018). Interventions, such as providing patients with a bowl of soapy water and wet cloths, or bringing a mobile sink before meals, are more labour intensive (Tanner and Mistry, 2011).

It is also important that the facilities or products are appropriate for, and acceptable to, the patient. Factors to be taken into account include patient mobility, dexterity and vision. Alcohol-based products may be unacceptable to some patients for religious reasons (Tanner and Mistry, 2011) and ABHR may be inappropriate for those with problems related to alcohol misuse.

Patients who have limited dexterity may find it difficult to open handwipes in single-use packets, which are often given to patients with meals (Rai et al, 2017). These patients may prefer single-patient use handwipes in an easy-to-open container or ABHR in pump dispensers (Knighton et al, 2017).

Some patients, including young children, those with dementia and those with disabilities affecting their dexterity, may be unable to perform hand hygiene for themselves. They will need support from healthcare staff or, where appropriate, parents or relatives when present.

In patients with neurological problems resulting in contractures, hand hygiene should be accompanied by visual inspection for skin or nail damage. Duke et al (2015) offer useful guidance on care for hands with contractures.

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Patient support and education

To adhere to appropriate hand hygiene, patients require access to appropriate hand-hygiene products. They also need to understand its importance, and know when they need to clean their hands and how to do so effectively.

Barker et al (2014) found that many patients do not realise that good hand hygiene can protect themselves and others against infection, and that patients are less likely to practise hand hygiene in hospital than at home – although those with good hand-hygiene practices at home are more likely to practise hand hygiene in hospital. Health professionals' compliance with hand-hygiene practice was also found to affect patient behaviours: 80.8% of patients wished to be directly encouraged by staff and 73.4% wanted visual reminders such as posters (Barker et al, 2014).

In studying the relationship between nurses' perceptions, attitudes and behaviour related to patient hand hygiene, Burnett (2009) found that 97% of respondents agreed or strongly agreed that infection rates could be reduced by good patient hand hygiene. However, while 85% said they always encouraged patients to decontaminate their hands after visiting the toilet, only 23% did so before patients had meals; this may indicate a lack of understanding of the implications of micro-organisms spread via the faecal-oral route such as viral vomiting/diarrhoea (norovirus), from hands touching a contaminated surface (Bellamy, 2012). This could cause cross-infection if the patient with contaminated hands then handles and eats food.

Wallace (2015) recommended that hospitals promote patient hand hygiene by:

- Educating patients about the dangers their hands represent;
- Making hand hygiene easier for patients by providing bedside access to ABHR or disinfectant wipes;
- Measuring ongoing patient hand hygiene in quality improvement plans.

Srigley et al (2016) reviewed the efficacy of patient hand-hygiene interventions at reducing healthcare-associated infections and/or improving hand-hygiene rates; the most-effective included education, reminders, audit and feedback, and provision of hand-hygiene products.

To complement the World Health Organization's (2009) *My 5 Moments for Hand Hygiene* aimed at health professionals, the Bode Science Center has proposed five key hand-hygiene moments for patients (Bit.ly/BSCPatientHand). These are based on recommendations of the

Box 1. Hand-hygiene advice for patients

General advice

- Spend a total of at least 60 seconds cleaning your hands using one of the methods below
- If they are visibly dirty or you have vomiting or diarrhoea, your hands should be cleaned using a disinfectant handwipe or washed with soap and water. Alcohol-based handrub should not be used

How to use a handwipe

- Rub the wipe on the palms of your hands
- Rub it on the backs of your hands
- Rub each finger and thumb
- Once dry, your hands are clean

How to use alcohol-based handrub

- Fill the palm of one hand with handrub
- Cover all surfaces of your hands with the handrub
- Rub your hands together, covering all surfaces
- Once dry, your hands are clean

How to wash hands

- Wet your hands under warm running water
- Apply enough soap to cover all surfaces
- Rub your hands together, covering all surfaces
- Rinse them thoroughly under warm running water
- Dry them thoroughly using a paper towel

WHO (2009) and those of the Robert Koch Institute (2016), and depicted in a photocopiable poster (see page 29). Box 1 gives brief advice on explaining the different methods of hand hygiene to patients, derived from advice for health professionals (WHO, 2009), while Box 2 offers advice to nurses on supporting patients' hand hygiene.

Conclusion

Patient hand hygiene is an important aspect of infection prevention and control. Health professionals must support patients in adhering to hand-hygiene practice through a combination of education and reminders (including visual reminders), and the provision of hand-hygiene products. Audit and feedback is also needed to monitor the efficacy of these interventions. **NT**

Box 2. Tips for supporting patient hand hygiene

- Display hand-hygiene reminders in patients' bed areas
- Make hand-hygiene products easily accessible to patients
- Remind patients to perform hand hygiene when helping them to use the toilet, commode or bedpan
- Remind patients to perform hand hygiene before eating
- Help patients with poor dexterity or cognitive problems to perform hand hygiene
- Act as a role model by performing hand hygiene in front of patients

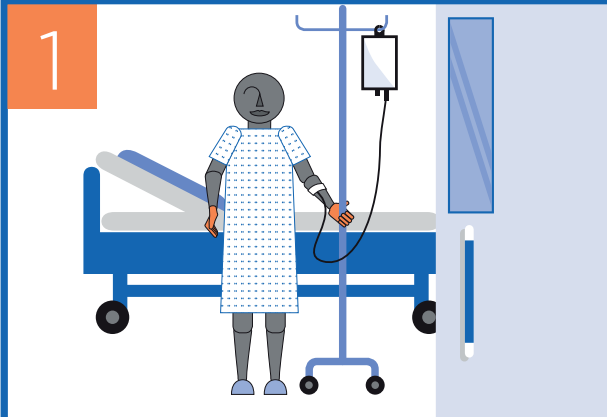
References

- Banfield KR, Kerr KG (2005) Could hospital patients' hands constitute a missing link? *Journal of Hospital Infection*; 61: 3, 183-188.
- Barker A et al (2014) Patients' hand hygiene at home predicts their hand hygiene practices in the hospital. *Infection Control and Hospital Epidemiology*; 35: 5, 585-588.
- Bellamy E (2012) An audit of cleaning effectiveness using adenosine triphosphate (ATP) bioluminescence assay following outbreaks of infection. *Journal of Infection Prevention*; 13: 5, 154-157.
- Burnett E (2009) Perceptions, attitudes, and behavior towards patient hand hygiene. *American Journal of Infection Control*; 37: 8, 638-642.
- Duke L et al (2015) Improving hand hygiene after neurological injury. *Nursing Times*; 111: 45: 12-15.
- Haverstick S et al (2017) Patient's hand washing and reducing hospital-acquired infection. *Critical Care Nursing*; 37: 3, e1-e8.
- Knighton SC et al (2017) Feasibility: an important but neglected issue in patient hand hygiene. *American Journal of Infection Control*; 45: 6, 626-629.
- Loveday HP et al (2014) epic3: national evidence-based guidelines for preventing healthcare-associated infections in NHS Hospitals in England. *Journal of Hospital Infection*; 86: S1, 1-70.
- Meiers D, King S (2000) Hand hygiene for patients with rheumatic diseases. *Nursing Times*; 96: 12, 47-48.
- Rai H et al (2017) Comparison of ethanol hand sanitizer versus moist towelette packets for mealtime patient hand hygiene. *American Journal of Infection Control*; 45: 9, 1033-1034.
- Robert Koch Institute (2016) Hand hygiene in healthcare facilities: recommendation of the Commission for Hospital Hygiene and Infection Prevention [German original]. *Bundesgesundheitsblatt*; 59: 9, 1189-1220.
- Srigley JA et al (2016) Interventions to improve patient hand hygiene: a systematic review. *Journal of Hospital Infection*; 94: 1, 23-29.
- Tanner J, Mistry N (2011) Hand hygiene: product preference and compliance. *Nursing Times*; 107: 6, 16-19.
- Wallace N (2015) *Patient Hand Hygiene: The Missing Link in Preventing Hospital Acquired Infections?* Bit.ly/ICTPatientHand
- Wilkinson MAC et al (2018) Assessment of the efficacy of a patient hand wipe: development of a test method. *Journal of Hospital Infection*; 98: 4, 339-344.
- World Health Organization (2009) *WHO Guidelines on Hand Hygiene in Health Care*. Bit.ly/WHOHandHygiene

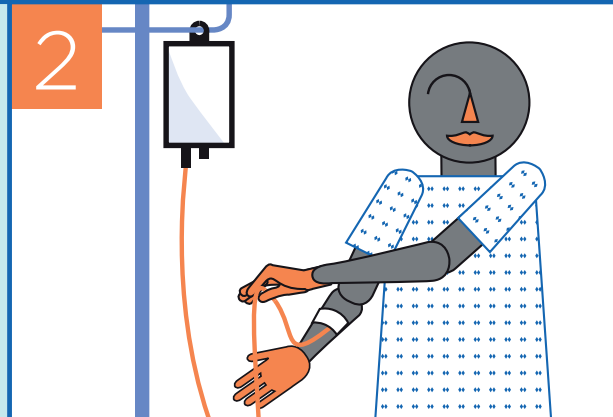
When to clean your hands

Hand hygiene is important to help protect you and other patients from infection. You can clean your hands with soap and water, hand wipes or handrub.

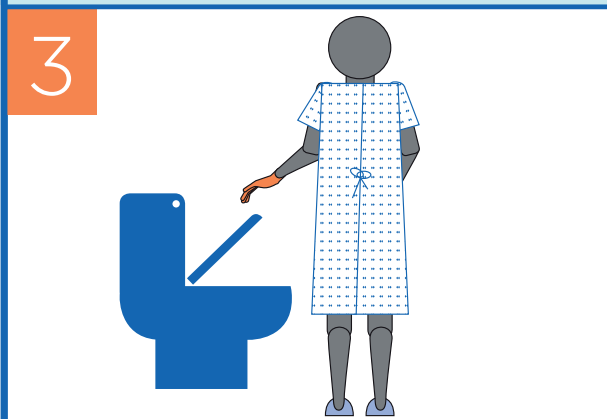
FIVE MOMENTS TO CLEAN YOUR HANDS



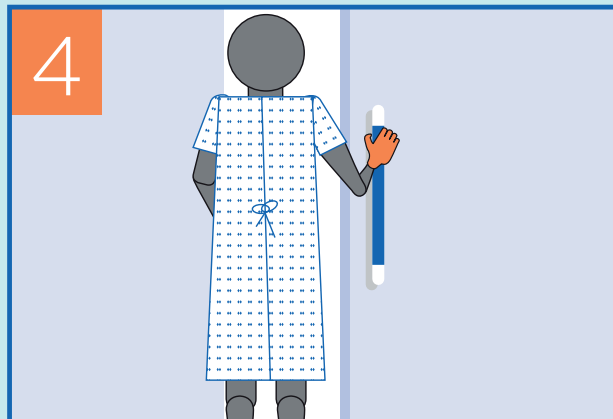
1 When entering or leaving your ward or bedroom



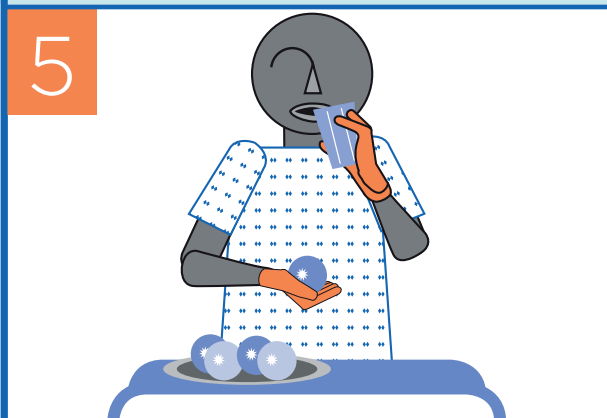
2 Before and after touching your own wounds, mouth and nose, or any tubes entering your body (eg urinary catheter, intravenous tube)



3 After using the toilet, bedpan or commode



4 After touching surfaces touched by many people (eg door handles, handrails)



5 Before eating, drinking and taking medicines

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