



## Victorian Quality Council Hand Hygiene Project Standards Review

References from Medline 2004+

### Authors

Creedon SA.

### Title

**Healthcare workers' hand decontamination practices: compliance with recommended guidelines.** [Review] [48 refs]

### Source

Journal of Advanced Nursing. 51(3):208-16, 2005 Aug.

### Abstract

**AIM:** This paper reports a study of healthcare workers' handwashing/hand hygiene practices from a behavioural perspective. **BACKGROUND:** Hospital acquired infection poses a very real and serious threat to all who are admitted to hospital. Pathogens are readily transmitted on healthcare workers' hands, and hand hygiene substantially reduces this transmission. Evidence-based guidelines for healthcare workers' hand hygiene practices exist, but compliance with these is internationally low. **METHODS:** A quasi-experimental design with a convenient sample was used. The Predisposing, Reinforcing, Enabling Constructs in Educational Diagnosis and Evaluation Health Education Theory was used as the theoretical framework, and the data were collected in 2001. Healthcare workers' handwashing practices (observation of behaviour, n = 314) and their predisposition (attitudes, beliefs and knowledge) towards compliance with hand hygiene guidelines (questionnaire, n = 62) were studied. Nurses, doctors, physiotherapists and care assistants involved in direct patient care in the study unit participated in the study. The interventional hand hygiene programme aimed to predispose healthcare workers to adopt hand hygiene behaviour (poster campaign and educational handout), reinforce (feedback on pretest results) and enable the behaviour (provision of an alcohol hand rub beside each patients bedside). **RESULTS:** Implementation of the multifaceted interventional behavioural hand hygiene programme resulted in an overall improvement in compliance with hand hygiene guidelines (51-83%,  $P < 0.001$ ). Furthermore, healthcare workers believed that their skin condition improved ( $P < 0.001$ ). An increase in knowledge about handwashing guidelines was also found. **CONCLUSIONS:** In order to be effective, efforts to improve compliance with handwashing guidelines must be multifaceted. Alcohol hand rubs (with emollients) need to be provided at each patient's bedside. Issues surrounding healthcare workers' skin irritation need to be addressed urgently. [References: 48]

### Authors

Anonymous.

### Title

**WHO launches global patient safety challenge; issues guidelines on hand hygiene in health care.**

### Source

Indian Journal of Medical Sciences. 59(10):461-3, 2005 Oct.

Authors

Larson EL. Albrecht S. O'Keefe M.

Title

**Hand hygiene behavior in a pediatric emergency department and a pediatric intensive care unit: comparison of use of 2 dispenser systems.**

Source

American Journal of Critical Care. 14(4):304-11; quiz 312, 2005 Jul.

Abstract

**BACKGROUND:** Adherence to hand hygiene standards is poor. Approaches and systems to improve hand hygiene practices warrant testing. **OBJECTIVE:** To compare the frequency of use of manually operated and touch-free dispensers of sanitizer for hand hygiene. **METHODS:** Manual and touch-free dispensers of alcohol sanitizer were placed in the emergency department and an intensive care unit of a large pediatric hospital for two 2-month periods for each type of dispenser. Counting devices installed in each dispenser and direct observations were used to determine actual frequency of and indications for hand hygiene. **RESULTS:** The touch-free dispensers were used significantly more often than were the manual dispensers. The means for the number of episodes of hand hygiene per hour were 4.42 for the touch-free dispensers and 3.33 for the manual dispensers ( $P=.04$ ); the means for the number of episodes per patient per hour were 2.22 and 1.79, respectively ( $P=.004$ ); and the means for the number of uses of the dispenser per day were 41.2 and 25.6, respectively ( $P=.02$ ). However, the overall compliance rate was 38.4% (2136 episodes of hand hygiene per 5568 indications for hand hygiene). **CONCLUSIONS:** The type of dispensing system influenced hand hygiene behavior. Nevertheless, overall hand hygiene compliance remained low. In order for interventions to have a major effect on hand hygiene, multiple factors must be considered.

Authors

Bristol N.

Title

Patient safety alliance to tackle hand washing worldwide.

Source

Lancet. 366(9490):973-4, 2005 Sep 17-23.

Authors

Thomas M. Gillespie W. Krauss J. Harrison S. Medeiros R. Hawkins M. Maclean R. Woeltje KF.

Title

**Focus group data as a tool in assessing effectiveness of a hand hygiene campaign.**

Source

American Journal of Infection Control. 33(6):368-73, 2005 Aug.

Abstract

**BACKGROUND:** Routine handwashing has been proven to decrease incidence of health care-associated infections, including methicillin-resistant *Staphylococcus aureus* (MRSA), spawning numerous attempts to "advertise" its importance. However, most control measures fail to evaluate systematically the efficacy of handwashing initiatives. The purpose of this study was to implement a hand hygiene program in an academic medical center, utilizing visual cues developed with periodic input from hospital personnel. **METHODS:** After estimation of baseline compliance (20%), visual cues in the form of 11" x 17" posters were developed in a sequential fashion, based

on suggestions from participants. The stepwise approach was supported by data collected via focus groups. These data were used to design target-specific messages and to understand better the benefits of utilizing participant input. **RESULTS:** Postexposure compliance rates indicated a modest improvement over baseline, increasing to 37% during the 12-month study. In addition, the stepwise design proved to be highly useful in guiding the intervention process. Analysis of qualitative data also elucidated numerous routes through which effective hand hygiene campaigns could be implemented. **CONCLUSIONS:** Through diligent observation and participant feedback, the research team was able to develop and market educational cues to meet service demands of health care professionals in a unified effort to control health care-associated infections. Future interventions should employ incremental evaluation designs supported by participant input to develop effective hand hygiene initiatives.

#### Authors

Zerr DM. Allpress AL. Heath J. Bornemann R. Bennett E.

#### Title

**Decreasing hospital-associated rotavirus infection: a multidisciplinary hand hygiene campaign in a children's hospital.**

#### Source

Pediatric Infectious Disease Journal. 24(5): 397-403, 2005 May.

#### Abstract

**OBJECTIVE:** Hand hygiene is an effective means of preventing hospital-associated infection, but compliance among health care workers is poor. Few studies aimed at increasing hand hygiene in the hospital setting have shown sustained improvement and concurrent decreases in hospital-associated infections, and even fewer have been performed in the pediatric setting. **METHODS:** We implemented a hand hygiene program with the hopes of improving hand hygiene and decreasing hospital-associated rotavirus infection rates. A multidisciplinary group developed a hospital supported, house-wide campaign. Opportunities for hand hygiene were observed during 5 periods. The frequency of hospital-associated rotavirus infection was tracked over time by review of laboratory records. Correlates of hand hygiene were investigated with the use of multivariate logistic regression. **RESULTS:** Overall hand hygiene compliance improved from 62% in period 1 to 81% in period 5 ( $P < 0.001$ ). Soap and water was the most common method for practicing hand hygiene, and alcohol hand gel use increased from 4% to 29% between the first and last observation periods ( $P < 0.001$ ). The rate of hospital-associated rotavirus infection decreased from 5.9 episodes per 1000 discharged patients in 2001 to 2.2 episodes per 1000 discharged patients in 2004 ( $P = 0.01$ ). Period of observation, hospital ward, type of care provider and type of care performed were all independently associated with hand hygiene (adjusted  $P < \text{or} = 0.02$  for all). **CONCLUSION:** Improving hand hygiene is an important goal for health care institutions. These data can be useful for development of interventions aimed at improving hand hygiene.

#### Authors

Aragon D. Sole ML. Brown S.

#### Title

**Outcomes of an infection prevention project focusing on hand hygiene and isolation practices.**

#### Source

AACN Clinical Issues. 16(2):121-32, 2005 Apr-Jun.

#### Abstract

Nosocomial infections are a major health problem for hospitalized patients and their families. Since the 1800s, hand hygiene has been recognized as the single best method to prevent the spread of pathogens and nosocomial infections. Despite this fact, many healthcare workers do not adhere to hand hygiene policies. The Centers for Disease Control and Prevention issued a guideline for hand hygiene practices in 2002. Multifaceted approaches to improve hand hygiene have been shown to increase compliance among healthcare workers and subsequently reduce infections. A performance improvement project was initiated to implement this guideline and other strategies to prevent nosocomial infection. This article summarizes the performance improvement processes and the preliminary outcomes on adherence to infection prevention policies related to hand hygiene and isolation practices. Clinically and statistically significant increases were noted for hand hygiene prior to patient care and in wearing masks when indicated. Nurses and patient care technicians had the greatest increases in compliance. Increases in hand hygiene after patient contact and wearing of gown and gloves were also noted, but results were not statistically significant. Nosocomial infection rates from antibiotic-resistant organisms decreased in the first surveillance, but rates increased during the 1-year surveillance. Consumption of alcohol-based foam disinfectant doubled from baseline. Findings are consistent with other published studies. The project will continue with further reinforcement and education over the second year.

#### Authors

Camins BC. Fraser VJ.

#### Title

**Reducing the risk of health care-associated infections by complying with CDC hand hygiene guidelines.**

#### Source

Joint Commission Journal on Quality & Patient Safety. 31(3):173-9, 2005 Mar.

#### Abstract

**BACKGROUND:** The Joint Commission on Accreditation of Healthcare Organizations has made the reduction of health care-associated infections one of its National Patient Safety Goals for 2005. **CASE STUDY:** A 57-year-old man who underwent coronary artery bypass graft surgery was discharged from the hospital without any complications. During his routine follow-up surgery clinic visit two weeks later, his sternal wound was found to be infected. Wound and blood cultures were positive for methicillin-resistant *Staphylococcus aureus* (MRSA). **IMPLEMENTING SOLUTIONS:** Health care workers at Barnes-Jewish Hospital (BJH), St. Louis, attended a mandatory educational session that reviewed hand hygiene guidelines and the hospital policy related to hand hygiene and infection control. In addition, posters and flyers were posted. An increase in the use of alcohol hand rubs was found. In a later effort, a multidisciplinary hand hygiene campaign was launched at one of the BJC community hospitals. All physicians were sent hand hygiene materials and supplies, and signs were posted in key areas such as the hospital cafeteria. After a six-month period, the compliance rate increased from 35% to 53%. **CONCLUSION:** Hospital-related infections will never be completely eradicated, but many can be prevented.

#### Authors

Dawson SJ. Forrest H. Greenaway A.

#### Title

**Evaluation of a hand hygiene programme on an intensive care unit.[comment].**

#### Source

Journal of Hospital Infection. 60(1):90-1, 2005 May.

Authors

Cam J.

Title

**What does it take to ensure effective hand decontamination by nurses?.  
[Review] [11 refs]**

Source

Professional Nurse. 19(12):26-8, 2004 Aug.

Abstract

John Camm describes a range of initiatives targeted at increasing awareness about the causes of hospital-acquired infection and promoting greater staff compliance with effective hand hygiene. The campaigns involve encouraging patients to raise concerns with nurses and installing handwashing facilities next to each patient's bed

[References: 11]

Authors

Gosain A. Rahullal. Mishra B. Mandal A.

Title

**Hand washing in healthcare workers--a challenge that can be met?.**

Source

Journal of the Association of Physicians of India. 52:164, 2004 Feb.

Authors

Bjerke NB.

Title

**The evolution: Handwashing to hand hygiene guidance.**

Source

Critical Care Nursing Quarterly. 27(3):295-307, 2004 Jul-Sep.

Abstract

Handwashing is a fundamental principle and practice in the prevention, control, and reduction of healthcare-acquired infection. Advocated by Semmelweis (Nursing, The Finest Art: An Illustrated History. St Louis: Mosby; 1985:204) from the 1800s to resolve an obstetric morbidity and mortality occurrence, the simple act of hand cleansing portrays the intuitive benefits to basic hygiene, health continuum, and, most important, disease prevention. According to recently published guidance (MMWR Morb Mortal Wkly Rep. October 25, 2002;51:32-34), the term handwashing is replaced by the new term hand hygiene, which includes hand cleansing, hand disinfecting, and surgical hand scrub. This article focuses on the published guidance, blending the salient aspects of hand hygiene practices from noted champions, reinforcing the aesthetics of meticulous cleansing, to guidance on its practice in healthcare settings. In healthcare, the principle of "clean hands are healing hands" bears value and demands compliance in order to prevent and control infectious processes while protecting the person from acquiring infectious diseases.

Authors

Storr J. Clayton-Kent S.

Title

**Hand hygiene.[see comment]. [Review] [65 refs]**

Source

Nursing Standard. 18(40):45-51; quiz 52, 54, 2004 Jun 16-22.

#### Abstract

This article explains the reasons associated with low compliance with hand hygiene policies. The authors suggest a range of strategies that nurses can adopt to reduce the number of avoidable infections developed by patients. [References: 65]

#### Authors

Rotter ML.

#### Title

**European norms in hand hygiene.**

#### Source

Journal of Hospital Infection. 56 Suppl 2:S6-9, 2004 Apr.

#### Abstract

In the area of hand hygiene, European Norms exist, or are under development, with regard to protective gloves and for assessing the antimicrobial efficacy of hand disinfectants. Important norms for gloves are EN 420 (General requirements), EN 374 (Protective gloves against chemicals and microorganisms) and EN 455 (Medical gloves for single use). A suspension test for the demonstration of bactericidal activity (prEN 12054) is obligatory for hand disinfectants in all fields of application; a test to prove activity against yeasts applies only to hygienic hand rub. (Optional) Claims for virucidal activities can be substantiated by prEN 1476 and, in future, for mycobactericidal capacity by a test which is still under development. In vivo tests exist for post-contamination treatments, hygienic hand wash and hygienic hand rub (EN 1499 and EN 1500 respectively), and for the preoperative surgical hand rub/wash (prEN 12791). The two former tests employ artificially contaminated hands, the latter test is done with clean hands. All in vivo tests use reference hand treatments (with unmedicated soap or 2-propanol 60% (vol.) or 1-propanol 60% (vol.), respectively) against the results of which are compared with those achieved with the product under test and with the same volunteers. An antiseptic soap needs to be significantly more efficacious than unmedicated soap, a product for hygienic hand rub must not be inferior to the reference treatment with 2-propanol, and a surgical hand disinfectant must not cause a smaller bacterial reduction than the reference preparation with 1-propanol, immediately, and after 3 h. An (optional) claim for sustained activity of a surgical disinfectant needs to be demonstrated by achieving a significantly stronger bacterial reduction after 3 h than the reference preparation.

#### Authors

Wendt C. Knautz D. von Baum H.

#### Title

**Differences in hand hygiene behavior related to the contamination risk of healthcare activities in different groups of healthcare workers.[see comment].**

#### Source

Infection Control & Hospital Epidemiology. 25(3):203-6, 2004 Mar.

#### Abstract

**BACKGROUND:** The Fulkerson scale lists 15 typical clinical activities ranked according to their risk of hand contamination. **OBJECTIVE:** To investigate how often healthcare workers (HCWs) apply antiseptic handrubs after each of the specified activities ranked in the Fulkerson scale. **DESIGN:** Observational study. **SETTING:** University Hospital of Heidelberg, a 1,600-bed teaching hospital. **METHODS:** Using a structured protocol, 41 observers recorded whether HCWs rubbed their hands in 1 of 15 given situations. **RESULTS:** Handrubs were used in 1,115 (52.2%) of 2,138 observations.

Comparatively high rates of handrub use were observed after contact with sterile materials (39.6%) and after contact with excretions (90% to 97%). Nurses used handrubs significantly more frequently than did physicians after contact with the inanimate environment, but physicians applied handrubs significantly more frequently after contact with body secretions. **CONCLUSIONS:** This study showed better compliance with hand hygiene than that reported by many previous studies, but compliance was still inadequate and varied significantly by type of HCW, type of activity, and location in the hospital.

Authors

Raboud J. Saskin R. Wong K. Moore C. Parucha G. Bennett J. Green K. Low D. Loeb M. Simor A. McGeer A.

Title

**Patterns of handwashing behavior and visits to patients on a general medical ward of healthcare workers.[see comment].**

Source

Infection Control & Hospital Epidemiology. 25(3):198-202, 2004 Mar.

Local Messages

Title held DHS Library. Please check Library journals page for details of issues held.

Abstract

**OBJECTIVE:** To obtain accurate data regarding the handwashing behavior and patterns of visits to patients by healthcare workers (HCWs). **METHODS:** All visits by HCWs to selected patient rooms were recorded for 3 days and 2 nights. Additionally, 5 nurses were observed for 1 day each and 2 nurses were observed for 1 night each. Nurses were observed for their entire shifts and all of their activities were recorded. **SETTING:** A general medical ward in a tertiary-care hospital. **PARTICIPANTS:** Convenience samples of HCWs and patients. **RESULTS:** Patients were visited every 25 minutes on average. Monitoring rooms and observing nurses resulted in similar rates of patient visits. The highest level of risk was contact with body fluids in 11% of visits and skin in 40% of visits. The overall rate of handwashing was 46%; however, the rate was higher for visits involving contact with body fluids (81%) and skin (61%). Nurses returned immediately to the same patient 45% of the time. The rate of handwashing was higher for the last of a series of visits to a patient's room (53% vs 30%,  $P < .0001$ ). **CONCLUSIONS:** Nurses adjusted their handwashing rates in accordance with the risk level of each visit. Monitoring patient rooms and observing nurses yielded similar estimates of patient visits and proportions of visits involving contact with skin or body fluids. Education programs about hand hygiene may be more effective if patterns of care and levels of risk are incorporated into recommendations.

Authors

Boyce JM.

Title

**New insights for improving hand hygiene practices.[comment].**

Source

Infection Control & Hospital Epidemiology. 25(3):187-8, 2004 Mar.

Authors

Al-Damouk M. Pudney E. Bleetman A.

Title

**Hand hygiene and aseptic technique in the emergency department.**

### Source

Journal of Hospital Infection. 56(2):137-41, 2004 Feb.

### Local Messages

Journal is held at the DHS Library. Please check Library Journals page for details of issues held and links to online versions

### Abstract

Hand hygiene and simple aseptic measures before invasive procedures are effective in reducing rates of healthcare-associated infection. The perceived urgency of a clinical situation in the emergency department, however, may influence medical staff's compliance with good practice in infection control. The aims of this prospective, single-blinded, observational study were twofold. First, to assess doctors' compliance with good practice in hand hygiene between patient episodes and asepsis during invasive procedures in the emergency department. Second, to assess the effect of clinical urgency on compliance with good practice in hand hygiene and asepsis during invasive procedures. Good practice standards for asepsis in invasive procedures and hand hygiene between patient episodes were compiled from a literature search. Doctors' compliance with these standards was observed in two emergency departments (UK and New Zealand). Observed clinical cases were classified as immediate, urgent and non-urgent based on the triage system. There was poor compliance with good practice guidelines for asepsis in invasive procedures in both centres. Staff achieved high compliance with the guidelines in only 27% of cases in the UK and 58% of cases in New Zealand. Clinical urgency did not appear to adversely affect compliance with aseptic good practice. Hand hygiene between patient consultations was very low at 14% in the UK and 12% in New Zealand. Asepsis and hand hygiene was poor in both the UK and New Zealand emergency departments. There may be a need for some compromise in standards of asepsis in very sick patients due to the urgency of the clinical situation. Compliance in all situations especially non-urgent procedures needs to be improved.