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Hand Hygiene in General Practice: How do we compare to the Hand Hygiene Australia (HHA) audit data for public and private hospitals.

Hand Washing: Why So Important?

Background

- World Health Org: SAVE LIVES – Clean Your Hands
  - Pre-Existing Robust Guidelines
  - Proven impact on patient safety
  - Reduction in spread of multi-resistant micro-organisms
  - Becoming ever-important with the development of ‘super bugs’
- Requirements of Hand Hygiene in practice
  - Peer Reviewed; consistent with evidence based care
  - Stealth integration into current workplace
  - Easy to learn
  - Logical approach
  - Easy to teach, audit and report

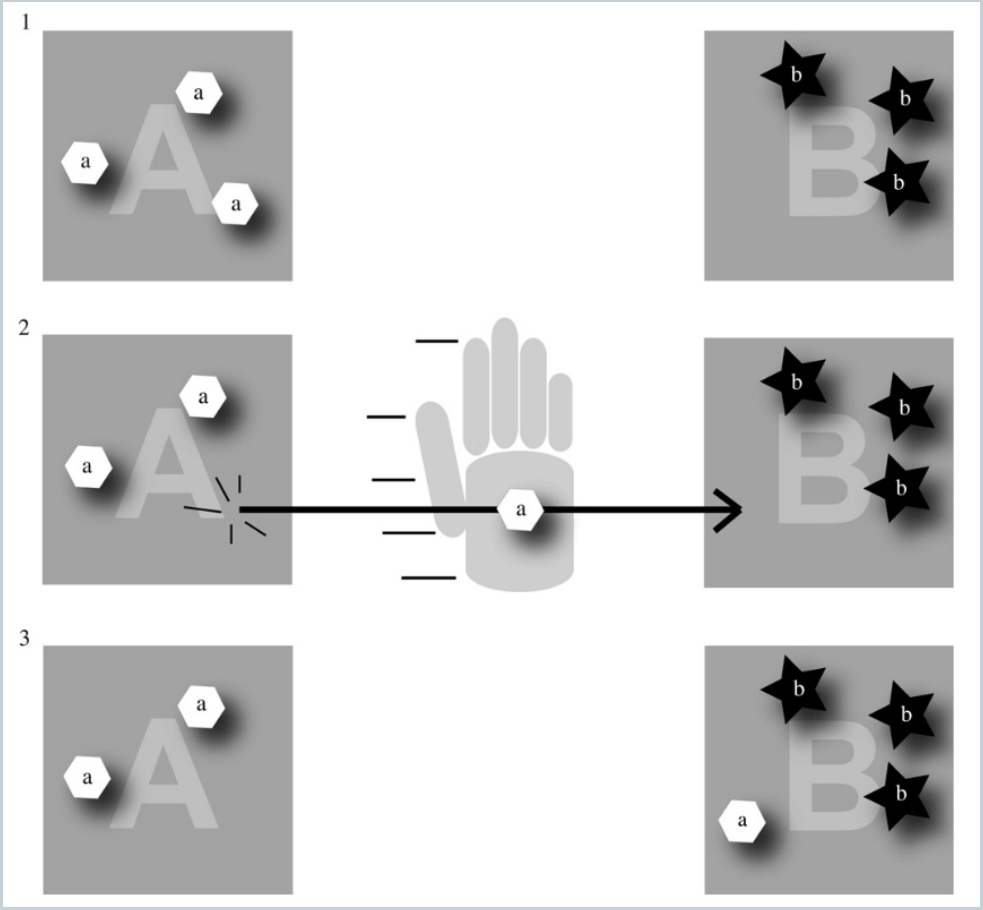
What is the Evidence?

- **Study in 2007 Underpinning WHO Model**
  - **Describes importance of Cross-Colonisation and Cross Infection of resistant organisms**
  - **Describes the reality that effective hand hygiene may require rub or wash every 2 minutes**
  - **Describes the importance of monitoring and reporting trends of hand hygiene**

'My five moments for hand hygiene': a user-centred design approach to understand, train, monitor and report hand hygiene

Sax H, et al. J Hosp Infect 2007; 67(1): 9–21

What to prevent?



'My five moments for hand hygiene': a user-centred design approach to understand, train, monitor and report hand hygiene

Sax H, et al. J Hosp Infect 2007; 67(1): 9–21

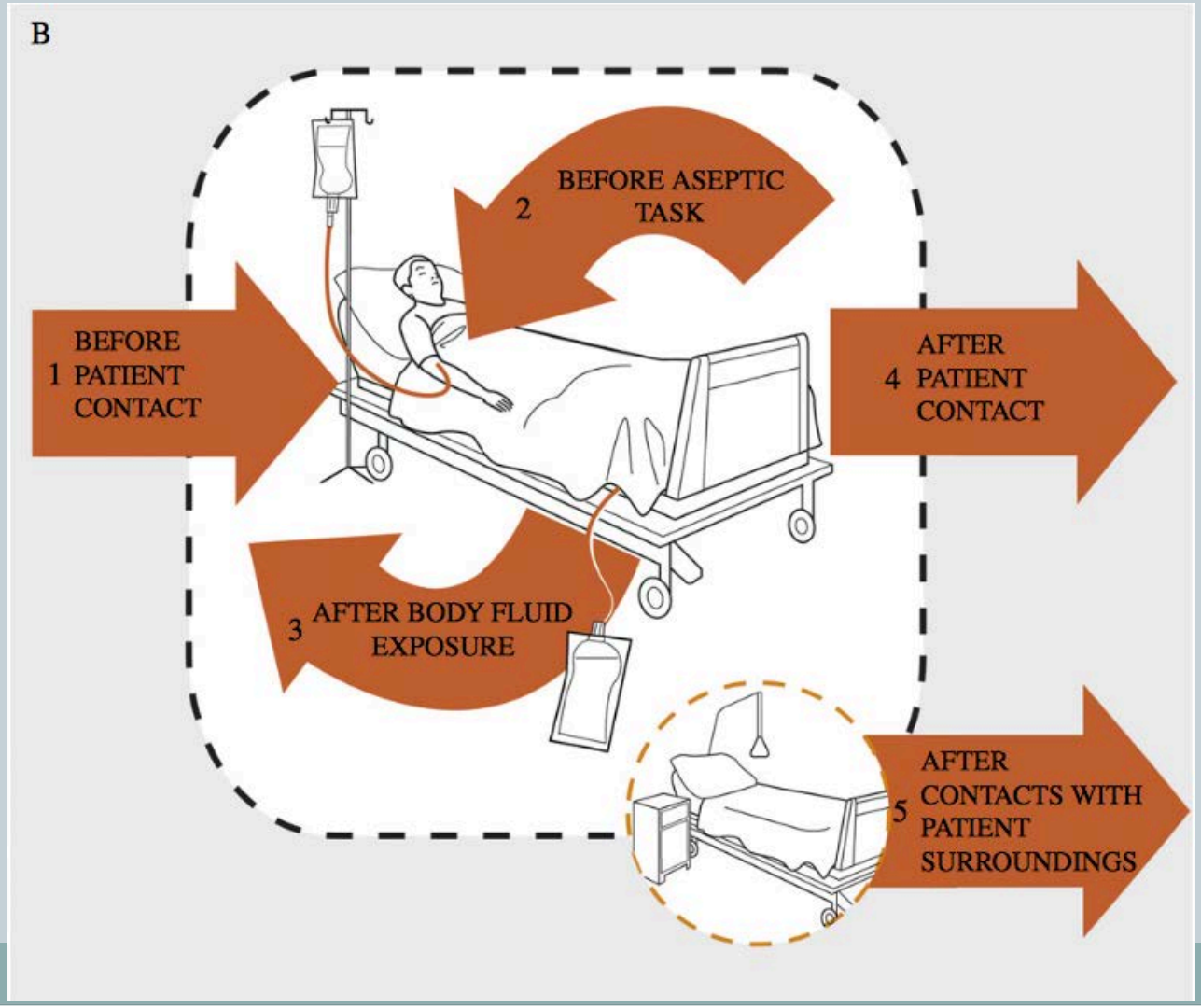
Reporting

Reporting

Reporting results of hand hygiene observation to HCWs is an essential element of multi-modal strategies to improve hand hygiene practices.[21,27,59] Therefore, reporting details on risk-specific hand hygiene performance may increase the impact of any feedback and make it possible to monitor progress in a meaningful way that fully corresponds to training and promotional material.

'My five moments for hand hygiene': a user-centred design approach to understand, train, monitor and report hand hygiene
Sax H, et al. J Hosp Infect 2007; 67(1): 9–21

5 Moments


B
BEFORE
1 PATIENT
CONTACT
2 BEFORE ASEPTIC
TASK
3 AFTER BODY FLUID
EXPOSURE
AFTER
4 PATIENT
CONTACT
AFTER
5 CONTACTS WITH
PATIENT
SURROUNDINGS

Contamination in Hospital?

ORIGINAL ARTICLE

A Study of the Relationship Between Environmental Contamination with Methicillin-Resistant *Staphylococcus Aureus* (MRSA) and Patients' Acquisition of MRSA

Katherine J. Hardy, PhD, MSc, BSc; Beryl A. Oppenheim, MBBCh, FRCPath; Savita Gossain, BSc, MBBS, MRCPath; Fang Gao, MB, BS, FRCA, MPhil; Peter M. Hawkey, BSc, DSc, MBBS, MD, FRCPath

OBJECTIVE. The study aimed to examine the presence of methicillin-resistant *Staphylococcus aureus* (MRSA) in the environment and its relationship to patients' acquisition of MRSA.

DESIGN. A prospective study was conducted in a 9-bed intensive care unit for 14 months. At every environmental screening, samples were obtained from the same 4 sites in each bed space. Patients were screened at admission and then 3 times weekly. All environmental and patient strains were typed using pulsed-field gel electrophoresis.

RESULTS. MRSA was isolated from the environment at every environmental screening, when both small and large numbers of patients were colonized. Detailed epidemiological typing of 250 environmental and 139 patient isolates revealed 14 different pulsed-field gel electrophoresis profiles, with variants of EMRSA-15 being the predominant type. On only 20 (35.7%) of 56 occasions were the strains isolated from the patients and the strains isolated from their immediate environment indistinguishable. There was strong evidence to suggest that 3 of 26 patients who acquired MRSA while in the intensive care unit acquired MRSA from the environment.

CONCLUSIONS. This study reveals widespread contamination of the hospital environment with MRSA, highlights the complexities of the problem of contamination, and confirms the need for more-effective cleaning of the hospital environment to eliminate MRSA.

Infect Control Hosp Epidemiol 2006; 27:127-132

Health Care Workers?

Lancet Infect Dis. 2008 May;8(5):289-301. doi: 10.1016/S1473-3099(08)70097-5.

Health-care workers: source, vector, or victim of MRSA?

Albrich WC[1], Harbarth S.

⊕ Author information

Abstract

There is ongoing controversy about the role of health-care workers in transmission of meticillin-resistant Staphylococcus aureus (MRSA). We did a search of the literature from January, 1980, to March, 2006, to determine the likelihood of MRSA colonisation and infection in health-care workers and to assess their role in MRSA transmission. In 127 investigations, the average MRSA carriage rate among 33 318 screened health-care workers was 4.6%; 5.1% had clinical infections. Risk factors included chronic skin diseases, poor hygiene practices, and having worked in countries with endemic MRSA. Both transiently and persistently colonised health-care workers were responsible for several MRSA clusters. Transmission from personnel to patients was likely in 63 (93%) of 68 studies that undertook genotyping. MRSA eradication was achieved in 449 (88%) of 510 health-care workers. Subclinical infections and colonisation of extranasal sites were associated with persistent carriage. We discuss advantages and disadvantages of screening and eradication policies for MRSA control and give recommendations for the management of colonised health-care workers in different settings.

PMID: 18471774 DOI: 10.1016/S1473-3099(08)70097-5

GP Setting?

Staphylococcus aureus

A cross sectional study of prevalence and risk factors in one general practice

Volume 41, No.5, May 2012 Pages 325-328

Rebecca Warren

Background

Infection control and antibiotic resistant organisms are a community health concern. This article presents findings of a cross sectional study of 100 users of the Thirroul Medical Practice clinical treatment room, in Thirroul, New South Wales.

Methods

Nasal *Staphylococcus aureus* colonisation rates and risk factors were investigated.

Results

Twenty-six percent of participants (n=26) were found to have *S. aureus*; 11.5% (n=3) of cases were community acquired methicillin resistant *S. aureus*. Methicillin resistant *S. aureus* was significantly correlated with older age (p=0.02) and skin infection within the preceding year (p=0.03). Clinical staff (n=15) had low rates of *S. aureus* at 6.6% (n=1) and no methicillin resistant *S. aureus*.

Discussion

Overall, *S. aureus* rates were unremarkable, but methicillin resistant *S. aureus* rates were higher than elsewhere with older patients most at risk. General practice staff developing infection control strategies should consider the vulnerable nature and cross-contamination risks in this group of patients. Encouragingly, clinical staff showed low levels of *S. aureus* and no methicillin resistant *S. aureus*.

GP Setting?

Discussion

This small study demonstrates a substantially different MRSA prevalence from those identified elsewhere[1,2,4] including:

- The Netherlands, where nasal swabs of 2691 general practice patients identified 23% prevalence of SA and no MRSA[5]
- the United States, where a large population based study found around 30% SA prevalence and 0.84% MRSA[6]
- Queensland, where a study of 699 adults – 396 patients of a specified practice and 303 others from the community – found SA in 28.9% (n=202) and 0.3% (n=2) MRSA.[7]

Staphylococcus aureus within the TMP group is unremarkable at 26%, however, MRSA rates vary across groups but at 3% were much higher at the TMP group than other community studies.

What Requirements?

Hand Hygiene Australia

The Australian Commission on Quality and Safety in Health Care (ACSQHC) has engaged Hand Hygiene Australia (HHA) to implement the National Hand Hygiene Initiative (NHHI). HHA reports directly to the ACSQHC.

The HHA team are headed by Professor Lindsay Grayson as Director, and Dr Andrew Stewardson as Project Manager. The HHA team members are based in Melbourne, and local HHA coordinators have been appointed in Tasmania, South Australia, Western Australia, New South Wales, Australian Capital Territory. HHA is assisting in coordinating Northern Territory.

HHA will work closely with existing State/Territory strategies and campaigns to maximise the success of the NHHI, including the establishment of a standard national system of outcome measures to assess the effectiveness of the NHHI.

While initially focusing on acute-care public hospitals, HHA resources are also available for all healthcare facilities, both public and private. Ultimately it is the responsibility of each State/Territory jurisdiction to determine their participation in the NHHI.

What is a GOOD Audit?

Department Selection for Hand Hygiene Compliance Auditing

All eligible departments should be audited a ***minimum*** of once per year (ideally each National Audit Period).

At least 100-200 moments should be collected per each high risk area each year.

TABLE 1 - Hospital stratification with number of wards

Number of acute inpatient beds	Minimum Total number hand hygiene moments per audit
> 400	2450
301 to 400	2100
201 to 300	1750
151 to 200	800
101 to 150	600
51 to 100	200
25 to 50	100
<25 **	50

** Auditing in Hospitals < 25 beds is dependent on jurisdiction, see table 2 below.

TABLE 2 – Current Jurisdictional requirements for hospital < 25 beds

Jurisdiction	Auditing required in hospitals <25 beds?
ACT	Yes
NSW	Yes
NT	Yes
QLD	Refer to Jurisdictional representative
SA	Refer to Jurisdictional representative
TAS	Yes
VIC	Yes
WA	Refer to Jurisdictional representative

Community?

Accreditation for Australian practices

General Practices, Medical Deputising Services (MDS), After-Hours Services, Aboriginal Medical Services, and Royal Flying Doctor Services are recognised for their commitment to safety, quality and continuous improvements with the award of accreditation.

Accreditation is independent recognition that a practice meets the requirements of governing industry standards. These are set by the Royal Australian College of General Practitioners (RACGP).

INDUSTRY BENCHMARK

Accreditation reassures practice owners, practice managers, staff, funding bodies, consumers and patients that a practice is meeting minimum safety and quality standards as outlined by RACGP.

PATIENT SAFETY

Accreditation demonstrates a practice's dedication to delivering high quality care and safety to their patients.

QUALITY IMPROVEMENT

Accreditation reflects a practice's commitment to continuous quality improvements – via systems, processes, policies, culture, risk management and staff training.

RACGP
Royal Australian College of General Practitioners

Infection prevention and control standards

For general practices and other office-based and community-based practices

5th edition

Chapter 1. Infection prevention and control principles

Section 1.1. Infection prevention and control and the practice team

Employers and managers have a responsibility under work health and safety laws to protect their staff from injury at work.

All members of the practice team need to be educated about their role in preventing the spread of infection. Education includes teaching the principles of infection prevention and control, checking competency (where a person competent to check observes others), and performing ongoing auditing and education of staff.

Practice team member education and competency should be recorded.

All members of the practice team are involved in the practice's infection prevention and control program.

Each practice needs to appoint an infection prevention and control coordinator. This practice team member has the primary responsibility for overseeing a comprehensive infection prevention and control program. Their duties include:

- assessing the risks of infection transmission throughout the practice
- drafting and finalising infection prevention and control policies and protocols for the practice
- regularly reviewing the infection prevention and control protocols
- organising training and education for the entire practice team about infection prevention and control protocols
- monitoring compliance with practice infection prevention and control protocols
- educating patients on infection prevention and control activities
- monitoring patients' infection prevention and control activities
- ensuring the cleaner complies with the practice infection prevention and control protocols.

Risk assessment

Each practice will need to perform regular infection prevention and control risk assessments (ie identify risks and estimate the likelihood of infection and the consequences if it occurs). A risk matrix can be used to calculate risk level of various situations and events (*Table 1.1*). Risks are then managed through education, training and redesign of work practices.

My Audit

- 4 Geographically Independent Clinical Practices
  - Sept and Oct 2017
- 7 Consultant GPs
- 50 Patient encounters
- 13 Procedures with Bodily Fluid Exposure
- 298 Clinical ‘Moments’

Methods

- Audit was transparent, anonymous and consented
- GPs were aware of being audited
- Audit was conducted in accordance to HHA guidelines
- Auditors clinically independent

Results

- Overall Compliance
  - 298 Moments
    - 53 Successful Wash
    - 245 Missed Moments
    - Overall 18% Compliance

Individual Moments

Moment	Total Moments	Success	Miss	%
1	109	11	98	10%
2	13	1	12	7%
3	13	6	7	46%
4	109	17	92	16%
5	47	15	32	32%

Glove Use

- 13 Procedures with Bodily Fluids
  - Gloves used on 2 encounters

Longest Period with No Wash

- 10 Consecutive patients

Discussion

- Hand Hygiene compliance was better
  - After patient encounter (32%)
  - After Procedure (46%)
  - After Examination (16%)
- Hand Hygiene compliance was poor
  - Before Patient Contact (10%)
  - Before a Procedure (7%)

Comparison to Hospital

- Audit Period 2 – 2017 (June)

Overall Compliance Rate

	Correct Moments	Total Moments	Compliance Rate	Lower 95% CI	Upper 95% CI
Overall Rate	494,673	586,559	84.3%	84.2%	84.4%

Number of data submissions by state

State	Public	Private
ACT	2	9
NSW	234	96
NT	5	3
QLD	98	80
SA	23	22
TAS	17	10
VIC	132	81
WA	87	38
Total	598	339

Moment Comparison

Compliance Rate by Moment

Moment	Correct Moments	Total Moments	Compliance Rate	Lower 95% CI	Upper 95% CI
1 - Before Touching A Patient	136,344	168,930	80.7%	80.5%	80.9%
2 - Before Procedure	51,621	58,782	87.8%	87.6%	88.1%
3 - After a Procedure or Body Fluid Exposure Risk	63,741	69,954	91.1%	90.9%	91.3%
4 - After Touching a Patient	147,019	167,266	87.9%	87.7%	88.1%
5 - After Touching A Patient's Surroundings	95,948	121,627	78.9%	78.7%	79.1%

Conclusions

- Rates of Hand Hygiene Compliance were much lower in this Audit between primary care and hospital setting
- Greater encouragement of self reporting and auditing practices may highlight areas to increase education resources
- A governing body such as AGPAL mandating audit requirements may improve overall compliance rates