



Hand Hygiene in Healthcare



Basics of Infection Prevention
2-Day Mini-Course
2015

Objectives

- Describe hand hygiene impact on infection prevention
- Review terminology
- Cite indications for appropriate use
- Select appropriate agents
- Describe proper hand hygiene techniques

Impact of Hand Hygiene on Healthcare-Associated Infections (HAI)

- 722,000 patients acquire HAI every year, 75,000 die
- 4th leading cause of death in US
- **Most common mode of transmission** of pathogens in hospitals is via hands of healthcare workers

MANY HAI are preventable with the simple act of hand hygiene.

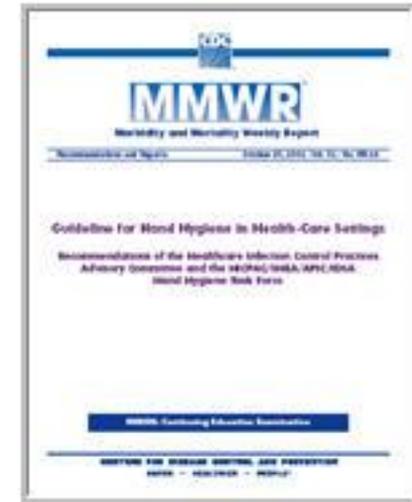


Magill S, NEJM (2014)

Hand Hygiene Guidelines, Regulations, and Policy Statements

The authorities have spoken!

- World Health Organization (WHO)
- Centers for Disease Control and Prevention (CDC)
- Healthcare Infection Control Practices Advisory Committee (HICPAC)
- Institute for Healthcare Improvement (IHI)
- Association of Professionals in Infection Control and Epidemiology (APIC)
- California Department of Public Health (CDPH)
- The Joint Commission (TJC)



Despite that

- Hand hygiene has been known to prevent spread of infection for 150 years...
- CDC and many other authorities have promulgated hand hygiene guidelines...
- Hand hygiene required by TJC (Patient Safety Goal 7)...
- Healthcare facilities write and rewrite hand hygiene policies and procedures...
- Lots of studies, intervention trials, observation and measurement...

Hand hygiene adherence in healthcare is ~40%



Perceived “Barriers” to Hand Hygiene

Both individual and system factors contribute to poor adherence with hand hygiene

- Agents cause irritation and dryness
- Sinks are inconveniently located / lack of sinks
- “Too busy”
- “Patient needs take priority”
- “Low risk of acquiring infection from patients”
- Lack of soap and paper towels (not regularly refilled)
- Understaffing / overcrowding
- No consequences for not performing hand hygiene



Pittet D, *Infect Control Hosp Epidemiol* 2000;21:381-386

Definitions and Terminology

- Hand Hygiene

General term for performing handwashing, antiseptic handwash, alcohol-based handrub, or surgical hand hygiene/antiseptics

- Handwashing

Washing hands with plain soap and water

- Antiseptic handwash

Washing hands with water and soap or other detergents containing an antiseptic agent

- Alcohol-based handrub

Rubbing hands with an alcohol-containing preparation

- Surgical hand hygiene/antiseptics

Surgical scrub (extended period handwashing with antiseptic agent) **-or-**
Alcohol-based handrub



Guideline for Hand Hygiene in Health-care Settings. *MMWR* 2002; vol. 51, no. RR-16

Indications for Hand Hygiene

- When hands are **contaminated** or soiled, **wash** with soap and water.
- If hands are **not visibly soiled**, use an alcohol-based **hand rub** for routinely decontaminating hands
 - except for spore-forming bacteria, e.g., *C.difficile*, certain non-enveloped viruses, e.g., norovirus, protozoan oocysts and prions.



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Specific Indications for Hand Hygiene

Before

- Patient contact
- Donning gloves
- Inserting urinary catheters, peripheral vascular catheters, or other invasive devices that don't require surgery

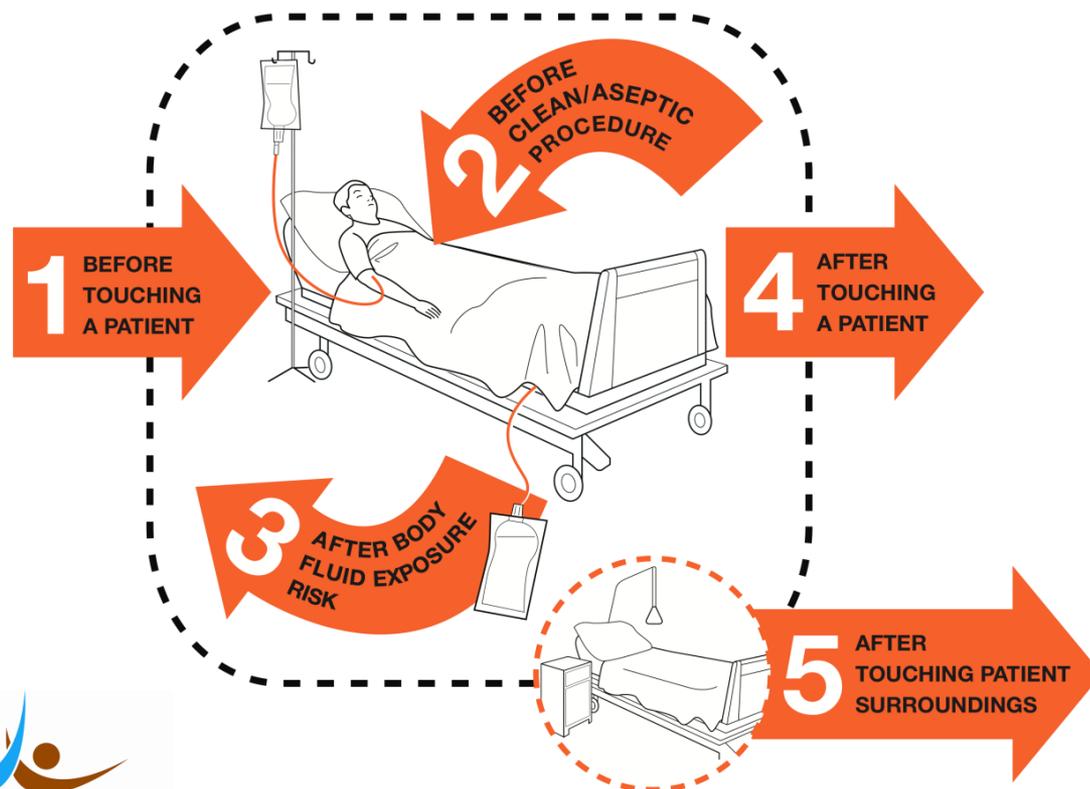
After

- Contact with a patient's skin
- Contact with body fluids or excretions, non-intact skin, wound dressings
- Removing gloves



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Your 5 Moments for Hand Hygiene



Assumption: We all purportedly know how and when we should perform hand hygiene. What's the missing link?

WE are not always 'aware' of where our hands have touched. Perform hand hygiene before moving on.

Factors to Consider When Selecting Hand Hygiene Products

- Efficacy of antiseptic agent
- Acceptance of product by healthcare personnel
 - Characteristics of product
 - Skin irritation and dryness
- Accessibility of product
- Dispenser systems

Guideline for Hand Hygiene in Health-care Settings. *MMWR 2002*; vol. 51, no. RR-16



Efficacy of Hand Hygiene Preparations



* less effective in presence of organic material

Recommended Hand Hygiene Technique

Hand rubs

- Apply to palm of one hand, rub hands together covering all surfaces until dry
- Volume: based on manufacturer recommendation

Hand washing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least 15 seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet



Guideline for Hand Hygiene in Health-care Settings. *MMWR 2002*; vol. 51, no. RR-16.

Surgical Hand Hygiene

- Appropriate to use either as antimicrobial soap or alcohol-based hand rub
 - Antimicrobial soap: scrub hands and forearms for length of time recommended by manufacturer
 - Alcohol-based hand rub: follow manufacturer's recommendations. Before applying, pre-wash hands and forearms with non-antimicrobial soap
- Surgical handrubs are better tolerated and not associated with increased risk of SSI compared with traditional



Guideline for Hand Hygiene in Health-care Settings. *MMWR 2002*; vol. 51, no. RR-16.

Skin Care

- Provide healthcare workers with hand lotions or creams
- Dryness or irritation of hands is often cited as a reason for non-compliance with hand hygiene regimes
- Seek information from manufacturers regarding effects that hand lotions, creams, or alcohol-based hand rubs may have on the effectiveness of antimicrobial soaps



Guideline for Hand Hygiene in Health-care Settings. *MMWR* 2002; vol. 51, no. RR-16

Fingernails and Artificial Nails

- 
- Natural nail tips should be kept to $\frac{1}{4}$ inch in length from the quick
 - Artificial nails should not be worn when having direct contact with patients

Guideline for Hand Hygiene in Health-care Settings. *MMWR* 2002; vol. 51, no. RR-16.

Unresolved Issues

- Use of non-alcohol based hand hygiene products
- Wearing rings in healthcare settings



Guideline for Hand Hygiene in Health-care Settings. *MMWR 2002*; vol. 51, no. RR-16

Gloving and Hand Hygiene

- Always wear gloves when contact with blood or infectious materials is possible
- Remove gloves after caring for *each* patient
 - Remove gloves, perform hand hygiene, and re-glove when transitioning care from a soiled to a clean area of the same patient's body
- Perform hand hygiene upon removing gloves
- Do not wash gloves
- Do not reuse gloves nor wear same gloves for multiple patients

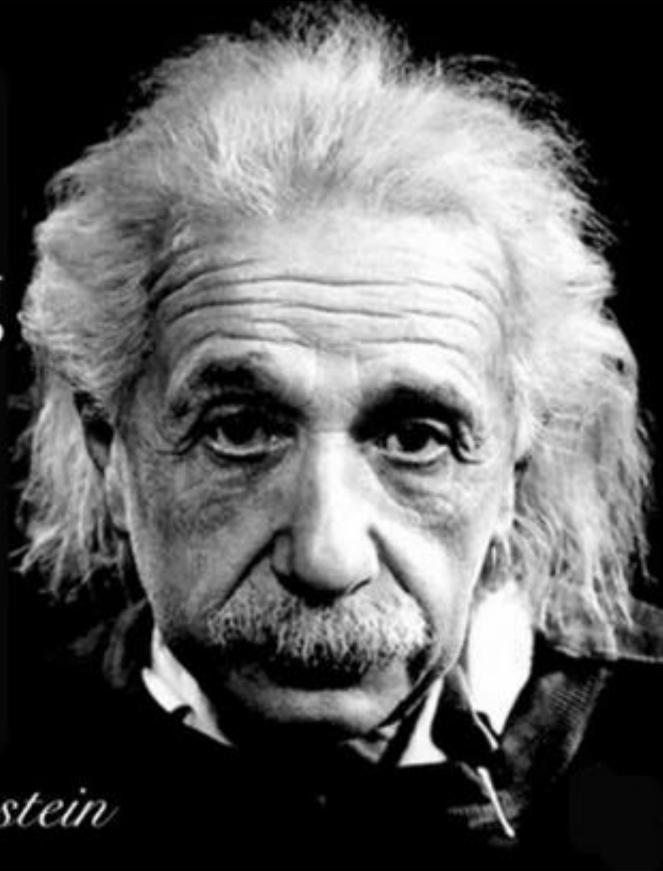


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Do we need to consider a different approach?

Insanity:
doing the same thing
over and over again
and expecting
different results.

- Albert Einstein



Indicators for Performance Improvement

Process measures

- Record adherence to hand hygiene
 - Use “secret shopper” method, iScrub app
- Assess volume of alcohol-based hand rub used per 1,000 patient days
- Measure adherence to policies on wearing artificial nails
- Provide feedback to HCWs individually, by service, department, or unit
 - Comparisons to other units can create healthy competition



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Sample Hand Hygiene Monitoring Tool

Hand Hygiene Observation Audit Tool			
Hand Hygiene Opportunity	Hand hygiene		What was the opportunity observed? (☑ 1 per line only)
	Discipline (if known)	Opportunity Successful ✓ or 0	
Example	N	✓	<input type="checkbox"/> before resident care leaving room <input type="checkbox"/> before aseptic task <input type="checkbox"/> after body fluids <input type="checkbox"/> after resident care <input checked="" type="checkbox"/> upon
	CNA	0	<input checked="" type="checkbox"/> before resident care leaving room <input type="checkbox"/> Before aseptic task <input type="checkbox"/> after body fluids <input type="checkbox"/> after resident care <input type="checkbox"/> upon
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Discipline: P =physician, N =nurse, CNA =Nurse Assistant, R =Respiratory therapist, S =student, D =dietary, W =social worker, V =Visitor, O =other, U =unknown ✓ =Opportunity Successful 0= Missed opportunity			
# Successful _____		# Opportunities _____	% Adherence _____%

How to Improve Hand Hygiene Compliance

- Make hand hygiene a facility priority
- Involve a multidisciplinary team
- Encourage patients and families to remind healthcare workers of hand hygiene
- Make hand rubs easily available
 - Place at entrance to patient room, at bedside
 - Provide HCWs with pocket-sized containers
- Use surveillance to monitor gaps in hand hygiene practices; give feedback!



Inside of Elevator Door

References and Resources

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Questions?

For more information, please contact any
HAI Liaison Team member

Thank you