



**Hand Hygiene Is The Single
Most Important Way to
Protect Our Patients From
Infection!**



The “5 Moments” Are?

- The times we perform “time out” before every invasive procedure (e.g., catheter insertion)
- The moments before we eat our 3 meals and 2 snacks each day
- The key moments when healthcare workers should perform hand hygiene
- A Pop music group



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- **The key moments when healthcare workers should perform hand hygiene**
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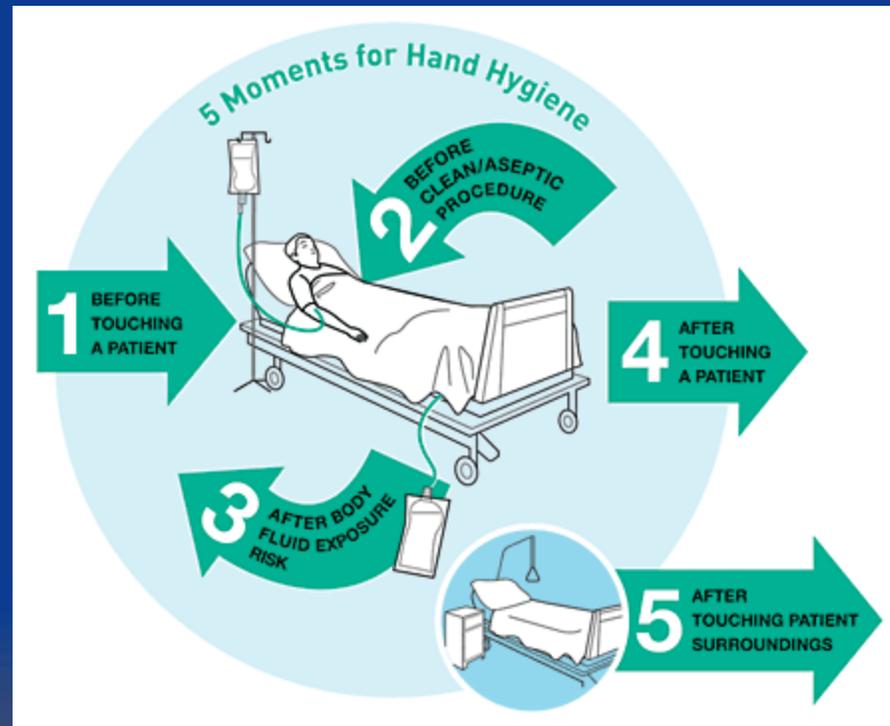


About SAVE LIVES: Clean Your Hands

The 5 Moments

- this approach recommends health-care workers to clean their hands
 1. before touching a patient
 2. before clean/aseptic procedures
 3. after body fluid exposure/risk
 4. after touching a patient, and
 5. after touching patient surroundings

<http://www.who.int/gpsc/5may/background/5moments/en/index.html>





The 5 Moments

Which of the 5 Moments is most important?

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4. after touching a patient, and
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Hygiene before touching a patient protects patients from germs carried on healthcare workers



So Why All the Fuss About Hand Hygiene?

Most common mode of transmission of pathogens to patients is via hands of Health Care Workers!

- Infections acquired in healthcare
- Spread of antimicrobial resistance



Recovery of VRE from Hands and Environmental Surfaces

- Up to 41% of healthcare worker's hands sampled (after patient care and before hand hygiene) were positive for VRE¹
- VRE were recovered from a number of environmental surfaces in patient rooms
- VRE survived on a countertop for up to 7 days²

¹ Hayden MK, *Clin Infect Diseases* 2000;31:1058-1065.

² Noskin G, *Infect Control and Hosp Epidemi* 1995;16:577-581.

The Inanimate Environment Can Facilitate Transmission



~ **Contaminated surfaces increase cross-transmission** ~

Abstract: The Risk of Hand and Glove Contamination after Contact with a VRE (+) Patient Environment. Hayden M, ICAAC, 2001, Chicago, IL.



Evidence of Relationship Between Hand Hygiene and Healthcare-Associated Infections

- Substantial evidence that hand hygiene reduces the incidence of infections
- More recent studies: rates lower when antiseptic handwashing was performed

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



Hand Hygiene Adherence in Hospitals

Year of Study	Adherence Rate	Hospital Area
1994 ⁽¹⁾	29%	General and ICU
1995 ⁽²⁾	41%	General
1996 ⁽³⁾	41%	ICU
1998 ⁽⁴⁾	30%	General
2005 ⁽⁵⁾	48%	General

1. Gould D, *J Hosp Infect* 1994;28:15-30. 2. Larson E, *J Hosp Infect* 1995;30:88-106. 3. Slaughter S, *Ann Intern Med* 1996;3:360-365. 4. Watanakunakorn C, *Infect Control Hosp Epidemiol* 1998;19:858-860. 5. Pittet D, *Lancet* 2000;356;1307-1312.



Recent WHO Study

- 327 healthcare facilities from 47 countries
 - Data from 1527 wards
 - 76,803 hand hygiene (HH) opportunities
 - **Overall mean HH Moment 1 compliance = 51.4%**
 - HH performed by
 - Handrubbing in 60.7%
 - Handwashing in 37.6%
 - Both methods in 1.7%
- Healthcare workers miss HH actions when this indication applies almost once in every two opportunities
- Nurses show better compliance than doctors

Allegranzi, B. WHO. ECCMID 2011



Self-Reported Factors for Poor Adherence with Hand Hygiene



- Handwashing agents cause irritation and dryness
- Sinks are inconveniently located/lack of sinks
- Lack of soap and paper towels
- Too busy/insufficient time
- Understaffing/overcrowding
- Patient needs take priority
- Low risk of acquiring infection from patients



Definitions

- Hand hygiene
 - Performing handwashing, antiseptic handwash, alcohol-based handrub, surgical hand hygiene/antiseptis
- 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/antiseptis
 - Handwashing or using an alcohol-based handrub before operations by surgical personnel

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



Hand Hygiene Options



Wet hands, apply soap and rub for ≥ 15 seconds. Rinse, dry & turn off faucet with paper towel.

Apply to palm; rub hands until dry



~ Use soap and water for visibly soiled hands ~

~ Do not wash off alcohol handrub ~



Indications for Hand Hygiene

- When hands are visibly dirty, contaminated, or soiled, wash with non-antimicrobial or antimicrobial soap and water.
- If hands are not visibly soiled, use an alcohol-based handrub for routinely decontaminating hands.

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



Summary

Alcohol-Based Handrubs: What benefits do they provide?

- Require less time
- More effective for standard handwashing than soap
- More accessible than sinks
- Reduce bacterial counts on hands
- Improve skin condition





Specific Indications for Hand Hygiene



■ Before:

- Patient contact
- Donning gloves when inserting a CVC
- 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
- Contact with contaminated surfaces
- **Removing gloves**

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



Efficacy of Hand Hygiene Preparations in Killing Bacteria

Good

Better

Best



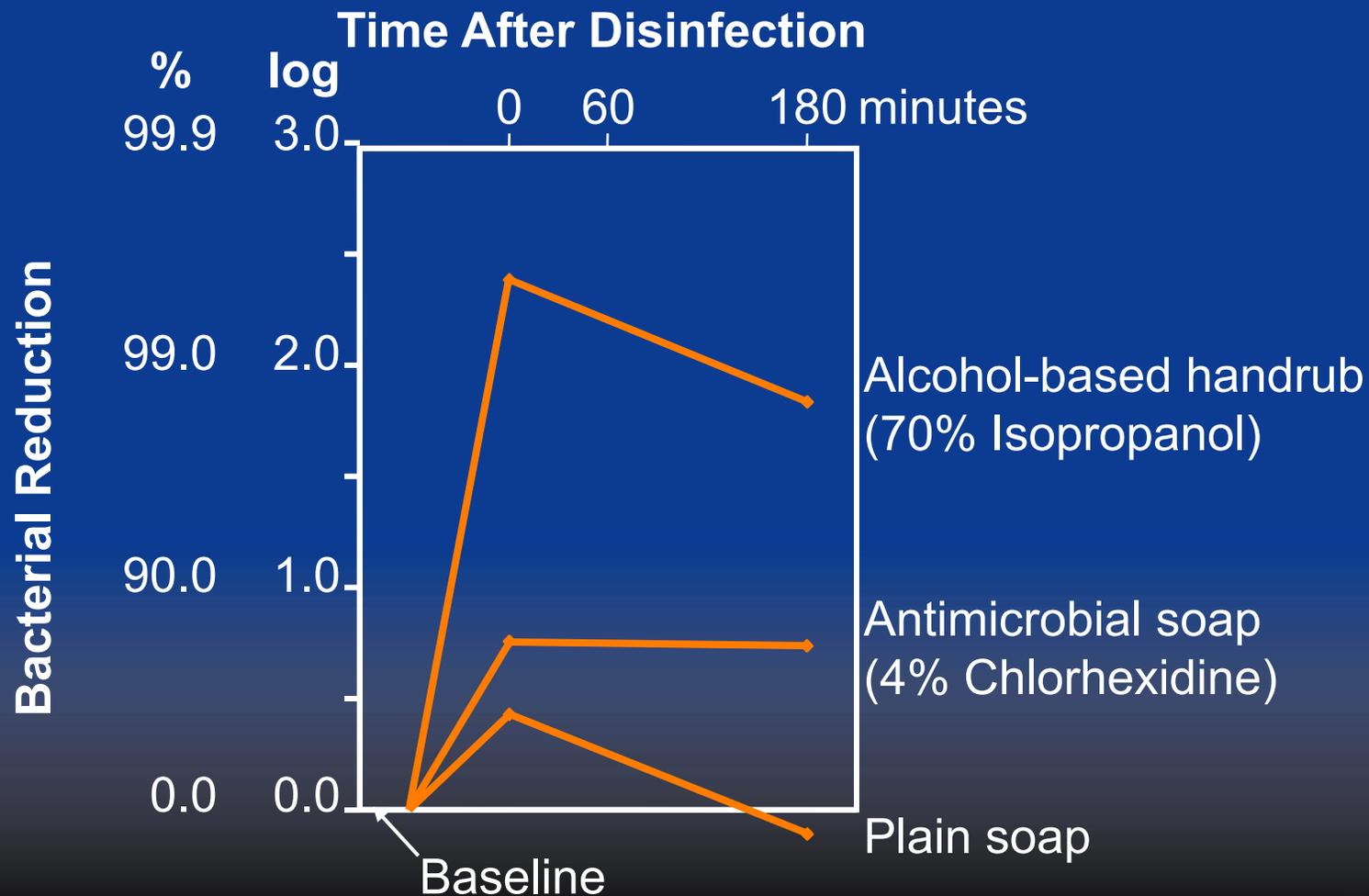
Plain Soap

Antimicrobial
soap

Alcohol-based
handrub



Ability of Hand Hygiene Agents to Reduce Bacteria on Hands



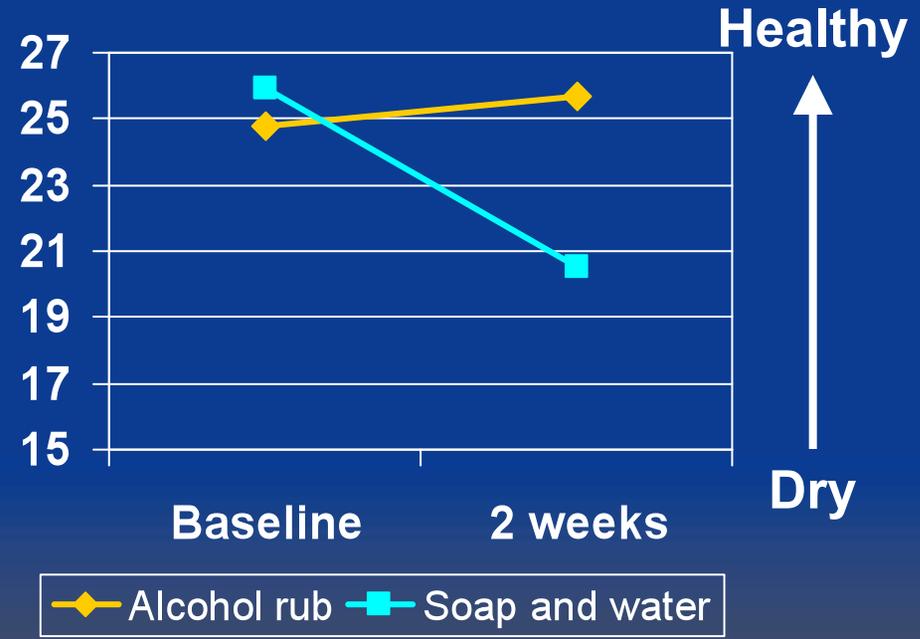
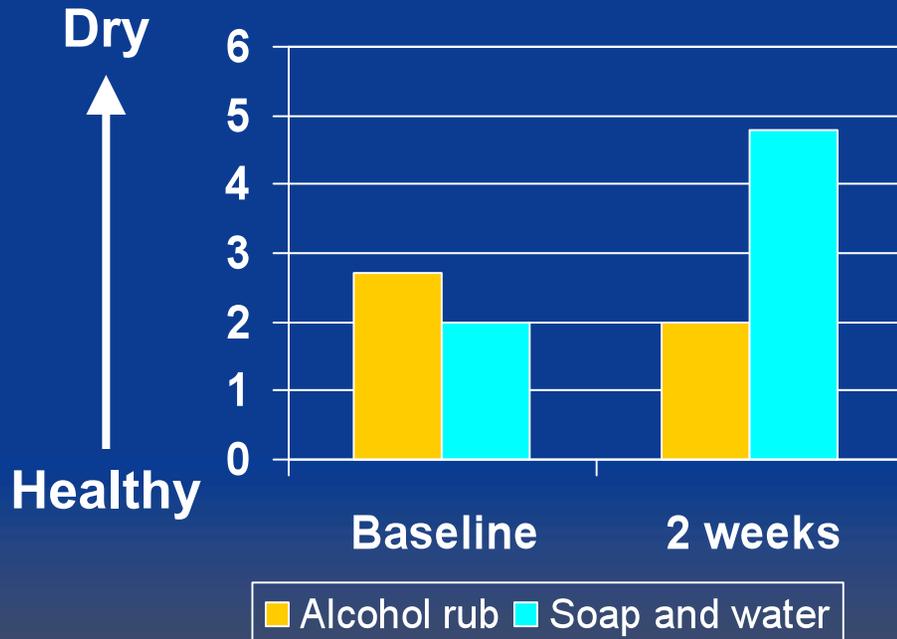
Adapted from: *Hosp Epidemiol Infect Control*, 2nd Edition, 1999.



Effect of Alcohol-Based Handrubs on Skin Condition

Self-reported skin score

Epidermal water content



~ Alcohol-based handrub is less damaging to the skin ~



Time Spent Cleansing Hands:

one nurse per 8 hour shift

- Hand washing with soap and water: 56 minutes
 - Based on seven (60 second) handwashing episodes per hour
 - Alcohol-based handrub: 18 minutes
 - Based on seven (20 second) handrub episodes per hour
- ~ Alcohol-based handrubs reduce time needed for hand disinfection ~**



Recommended Hand Hygiene Technique

■ Handrubs

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

■ Handwashing

- Wet hands with water, apply soap, rub hands together 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.



Skin Care

- Skin lotion, compatible with the antiseptic soap (2% CHG), is the only approved product and is available in wall mounted dispensers
- Commercially available lotions should not be used as they inactivate the persistent activity of the antiseptic soap.
- In addition, they may become easily contaminated and a reservoir for infection



Fingernails and Artificial Nails

- Natural nail tips should be kept to $\frac{1}{4}$ inch in length
- Artificial nails should not be worn when having direct contact with high-risk patients (e.g., ICU, OR)



Gloving

- Wear gloves when contact with blood or other potentially infectious materials is anticipated
- Remove gloves after caring for a patient or if moving from a contaminated-body site to a clean-body site during patient care.
- Do not wear the same pair of gloves for the care of more than one patient



Choosing The Right Glove

- Vinyl gloves are indicated for most patient contact
- Powder free latex (or nitrile for documented latex allergy) are indicated for potential exposure to blood/blood products or body fluids with visible blood



PREVENTION IS PRIMARY!

*Protect patients...protect healthcare personnel...
promote quality healthcare!*

SAFER • HEALTHIER • PEOPLE™



REVIEW and Post TEST



What is the single most important reason for healthcare workers to practice good hand hygiene?

1. To remove visible soiling from hands
2. To prevent transfer of bacteria from the home to the hospital
3. To prevent transfer of bacteria from the hospital to the home
4. To prevent infections that patients acquire in the hospital



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How often do you clean your hands after touching a *PATIENT'S INTACT SKIN* (for example, when measuring a pulse or blood pressure)?

- Always
- Often
- Sometimes
- Never





How often do you clean your hands after touching a PATIENT'S INTACT SKIN (for example, when measuring a pulse or blood pressure)?

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2. Often
3. Sometimes
4. Never





Estimate how often YOU clean your hands after touching a patient or a contaminated surface in the hospital?

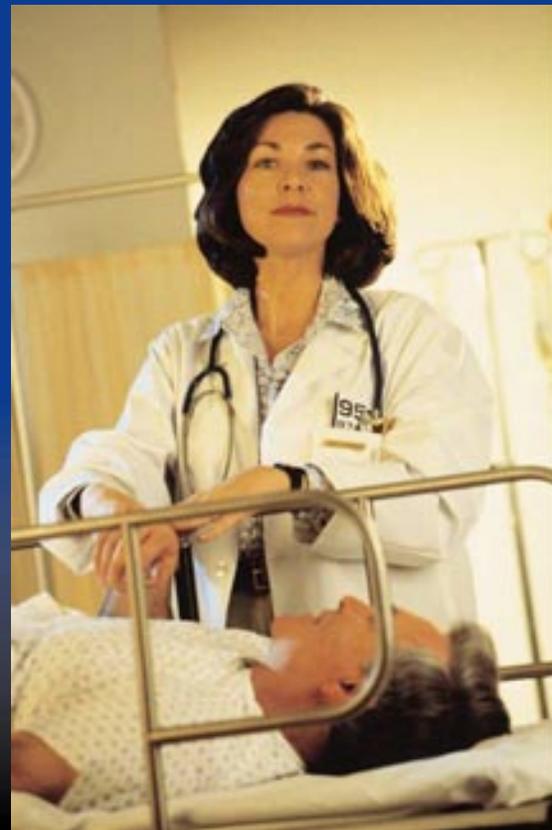
- 25%
- 50%
- 75%
- 90%
- 100%





Now, estimate how often YOUR CO-WORKERS clean their hands after touching a patient or a contaminated surface in the hospital?

1. 25%
2. 50%
3. 75%
4. 90%
5. 100%





Which method do you use to clean your hands at work?

- Plain soap and water
- Antimicrobial soap and water
- Alcohol-based handrub





Which hand hygiene method is best at killing bacteria?

1. Plain soap and water
2. Antimicrobial soap and water
3. Alcohol-based handrub



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Which of the following hand hygiene agents is LEAST drying to your skin?

1. Plain soap and water
2. Antimicrobial soap and water
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Which of the following hand hygiene agents is LEAST drying to your skin?

1. Plain soap and water
2. Antimicrobial soap and water
3. Alcohol-based handrub



It is acceptable for healthcare workers to supply their own lotions to relieve dryness of hands in the hospital.

1. Strongly agree
2. Agree
3. Don't know
4. Disagree
5. Strongly disagree





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How much time would an ICU nurse save during an 8 hour shift by using an alcohol-based handrub instead of soap and water?

1. 15 minutes
2. 30 minutes
3. 1 hour
4. 2.5 hours





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* Based on 12 opportunities/hour, handwashing time=60 seconds, alcohol-based handrub time=20 seconds



Healthcare-associated organisms are commonly resistant to alcohol.

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2. Agree
3. Don't know
4. Disagree
5. Strongly disagree



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4. Disagree

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When a healthcare worker touches a patient who is COLONIZED, but not infected with resistant organisms (e.g., MRSA or VRE) the HCW's hands are a source for spreading resistant organisms to other patients.

1. Strongly agree
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3. Don't know
4. Disagree
5. Strongly disagree





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A co-worker who examines a patient with VRE, then borrows my pen without cleaning his/her hands is likely to contaminate my pen with VRE.

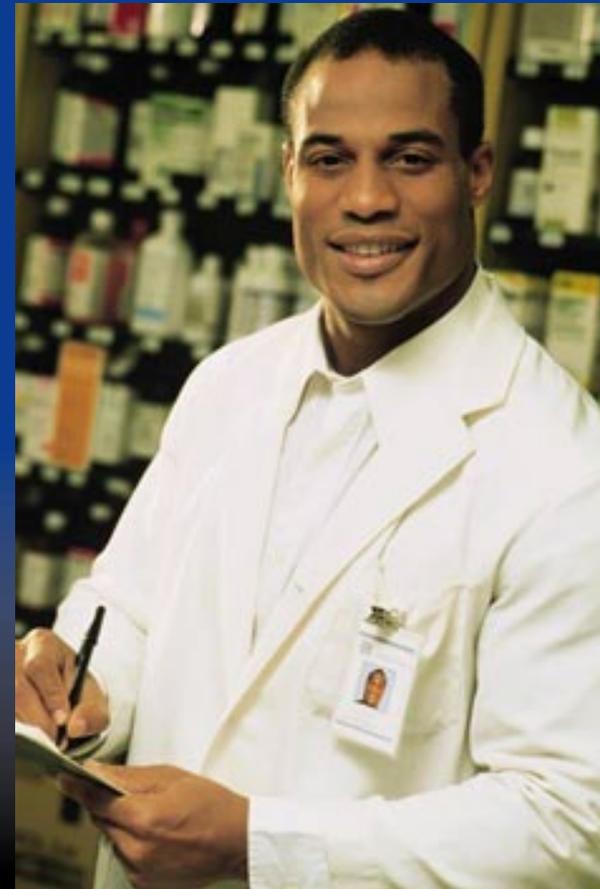
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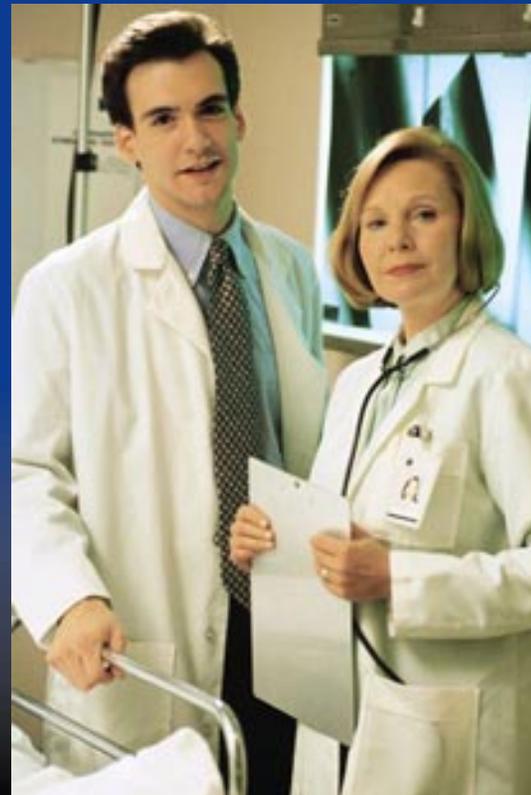
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How often do you clean your hands after touching an ENVIRONMENTAL SURFACE near a patient (for example, a countertop or bedrail)?

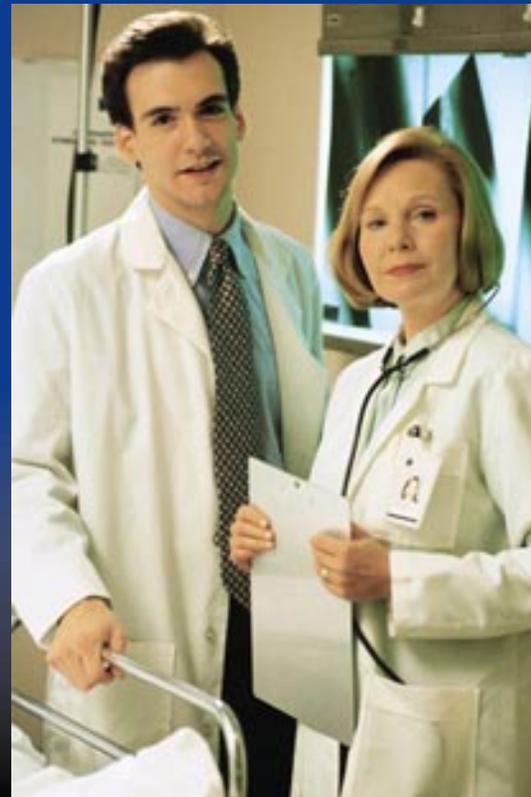
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2. Often
3. Sometimes
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Use of artificial nails by healthcare workers poses no risk to patients.

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Glove use for all patient care contacts is a useful strategy for reducing risk of transmission of organisms.

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hand hygiene saves lives

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