World Health Organization

Patient Safety

A World Alliance for Safer Health Care

SAVE LIVES
Clean Your Hands

Health Care-Associated Infection and Hand Hygiene Improvement

Infection Control Services

Northwest General Hospitals

Overview of the Session

- There is a continued need to advocate for good hand hygiene in health care
  - HCAI places a serious disease burden and significant economic impact on patients and health-care systems
  - Good hand hygiene – the simple task of cleaning hands at the right times and in the right way saves lives

What is Health Care-associated Infection (HCAI)?

- Also referred to as “nosocomial” or “hospital” infection

  “An infection occurring in a patient during the process of care in a hospital or other health-care facility which was not present or incubating at the time of admission. This includes infections acquired in the health-care facility but appearing after discharge, and also occupational infections among health-care workers of the facility”

Why is Hand Hygiene important?

- Most common mode of transmission
- Most important factor in preventing spread of organisms
- Reduce number of infections
- Decrease patient length of stay
- Decrease use of resources
- Reduce number of deaths

Hand Hygiene is considered to be the *single most important practice* in reducing transmission of infectious agents, and thus HCAI, during delivery of medical care.

Definitions of Hand Hygiene

- Hand hygiene
  - Performing hand washing, antiseptic hand wash, alcohol-based hand rub, surgical hand hygiene/antisepsis
- Hand washing
  - Washing hands with plain soap and water
- Antiseptic hand wash
  - Washing hands with water and soap or other detergents containing an antiseptic agent
- Alcohol-based hand rub
  - Rubbing hands with an alcohol-containing preparation
- Surgical hand hygiene/antisepsis
  - Hand washing or using an alcohol-based hand rub before operations by surgical personnel

Estimated rates of HCAI worldwide

- At any time, over 1.4 million people worldwide are suffering from infections acquired in health-care facilities
- In modern health-care facilities in the developed world: 5–10% of patients acquire one or more infections
- In developing countries the risk of HCAI is 2–20 times higher than in developed countries and the proportion of patients affected by HCAI can exceed 25%
- In intensive care units, HCAI affects about 30% of patients and the attributable mortality may reach 44%

The impact of HCAI

HCAI can cause:

- more serious illness
- prolongation of stay in a health-care facility
- long-term disability
- excess deaths
- high additional financial burden
- high personal costs on patients and their families

Most frequent sites of infection and their risk factors

URINARY TRACT INFECTIONS — 34%

Urinary catheter
Urinary invasive procedures
Advanced age
Severe underlying disease
Urolitiasis
Pregnancy
Diabetes

LOWER RESPIRATORY TRACT INFECTIO — 13%

Mechanical ventilation
Aspiration
Nasogastric tube
Central nervous system depressants
Antibiotics and anti-acids
Prolonged health-care facilities stay
Malnutrition
Advanced age
Surgery
Immunodeficiency

LACK OF HAND HYGIENE

Most common sites of health-care-associated infection and the risk factors underlying the occurrence of infections

SURGICAL SITE INFECTIONS — 17%

Inadequate antibiotic prophylaxis
Incorrect surgical skin preparation
Inappropriate wound care
Surgical intervention duration
Type of wound
Poor surgical asepsis
Diabetes
Nutritional state
Immunodeficiency
Lack of training and supervision

BLOOD INFECTIONS — 14%

Vascular catheter
Neonatal age
Critical care
Severe underlying disease
Neutropenia
Immunodeficiency
New invasive technologies
Lack of training and supervision

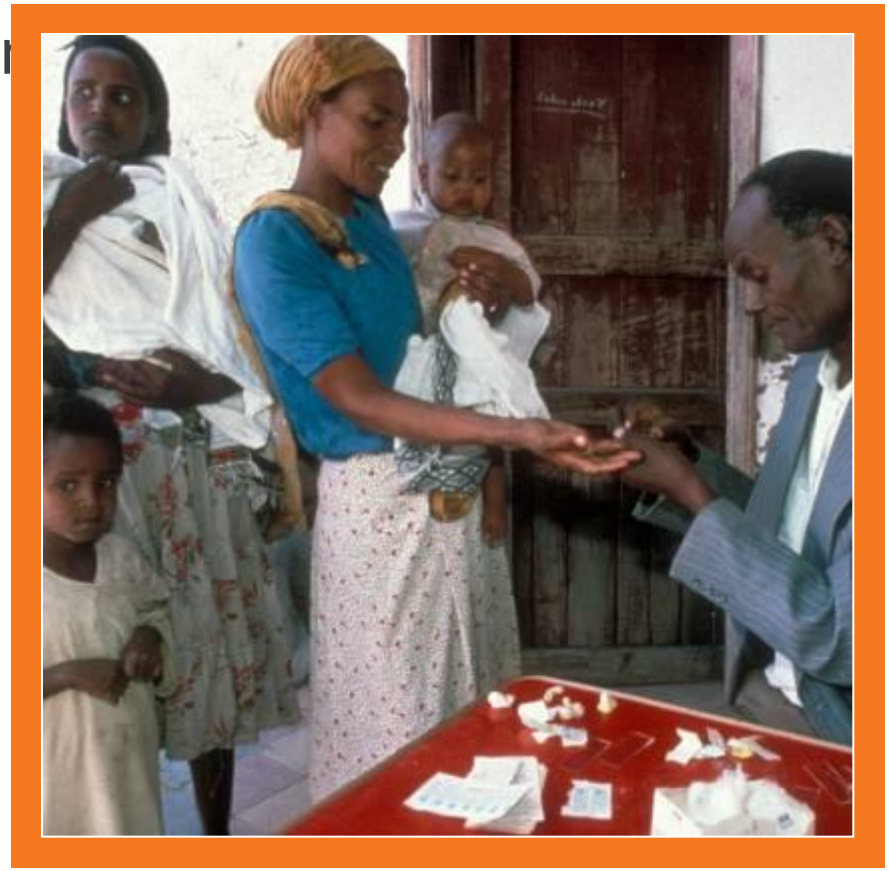
Prevention of health care-associated infection

- Validated and standardized prevention strategies have been shown to reduce HCAI
- At least 50% of HCAI could be prevented
- Most solutions are simple and not resource-demanding and can be implemented in developed, as well as in transitional and developing countries

Transmission of Infection through Hands

- Hands are the most common vehicle to transmit health care-associated pathogens
- Transmission of health care-associated pathogens from one patient to another via health-care workers' hands requires 5

  sequential steps



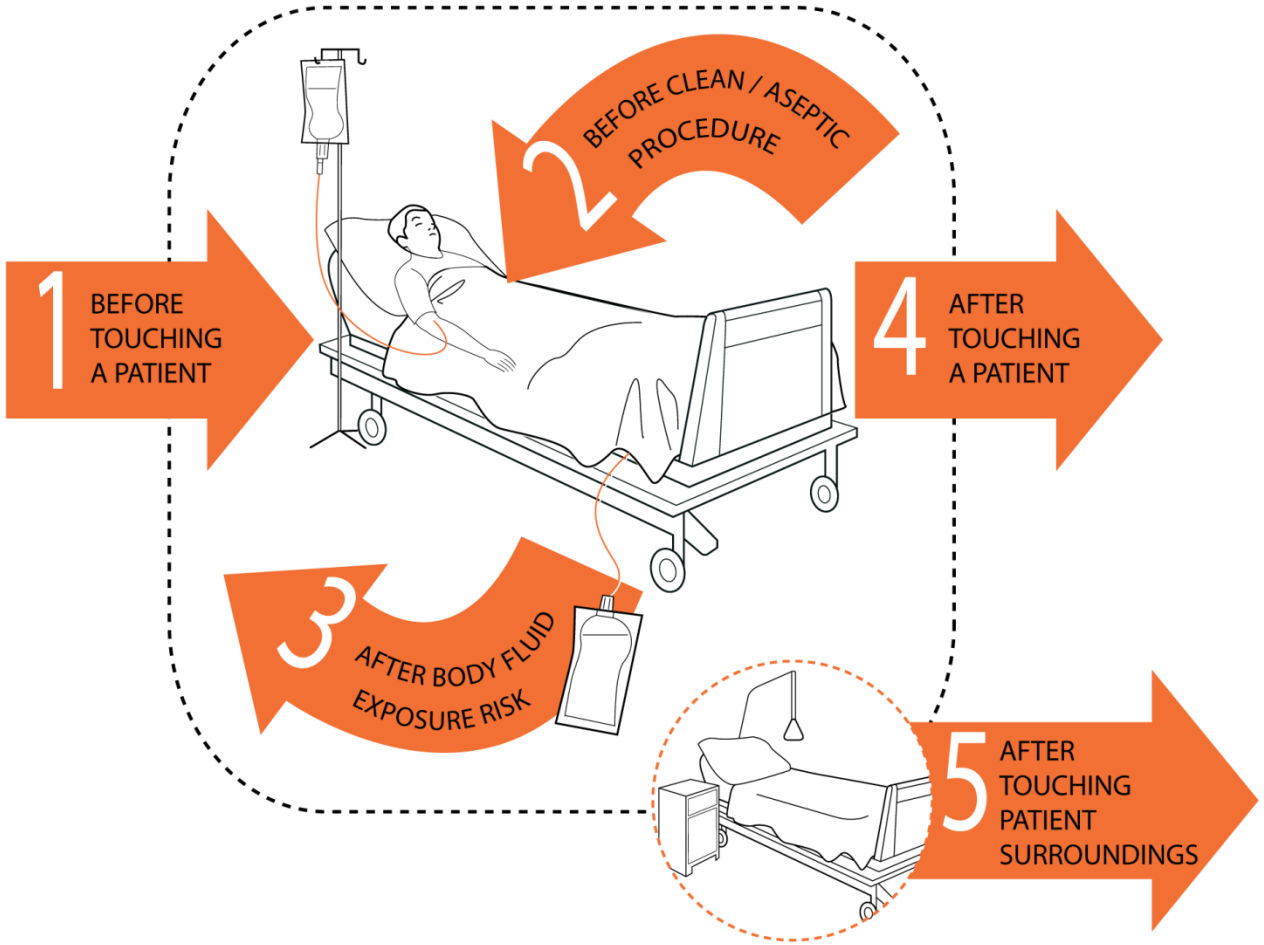
5 stages of hand transmission

one	two	three	four	five
Germs present on patient skin and immediate environment surfaces	Germ transfer onto health-care worker's hands	Germs survive on hands for several minutes	Suboptimal or omitted hand cleansing results in hands remaining contaminated	Contaminated hands transmit germs via direct contact with patient or patient's immediate environment

Why should you clean your hands?

- Any health-care worker involved in patient care needs to be concerned about hand hygiene
- Therefore hand hygiene concerns **you**!
- **You** must perform hand hygiene to:
  - **protect the patient** against harmful germs carried on **your** hands or present on his/her own skin
  - **protect yourself** and the health-care environment from harmful germs

The “My 5 Moments for Hand Hygiene” approach



My 5 Moments for Hand Hygiene

1	BEFORE TOUCHING A PATIENT	WHEN? WHY?	Clean your hands before touching a patient when approaching him/her. To protect the patient against harmful germs carried on your hands.
2	BEFORE CLEAN/ ASEPTIC PROCEDURE	WHEN? WHY?	Clean your hands immediately before performing a clean/aseptic procedure. To protect the patient against harmful germs, including the patient's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN? WHY?	Clean your hands immediately after an exposure risk To body fluids (And after glove removal). To protect yourself and the health-care environment from harmful patient germs.
4	AFTER TOUCHING A PATIENT	WHEN? WHY?	Clean your hands after touching a patient and her/his. Immediate surroundings, when leaving the patient's side. To protect yourself and the health-care environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	WHEN? WHY?	Clean your hands after touching any object or furniture in the patient's immediate surrounding, when leaving even if the patient has not been touched. To protect yourself and the health-care environment from harmful patient germs.

How to clean your Hands?

- Handrubbing with alcohol-based handrub is the preferred routine method of hand hygiene if hands are NOT visibly soiled

- Handwashing with soap and water – essential when when hands are visibly dirty or visibly soiled (following visible exposure to body fluids)[1]

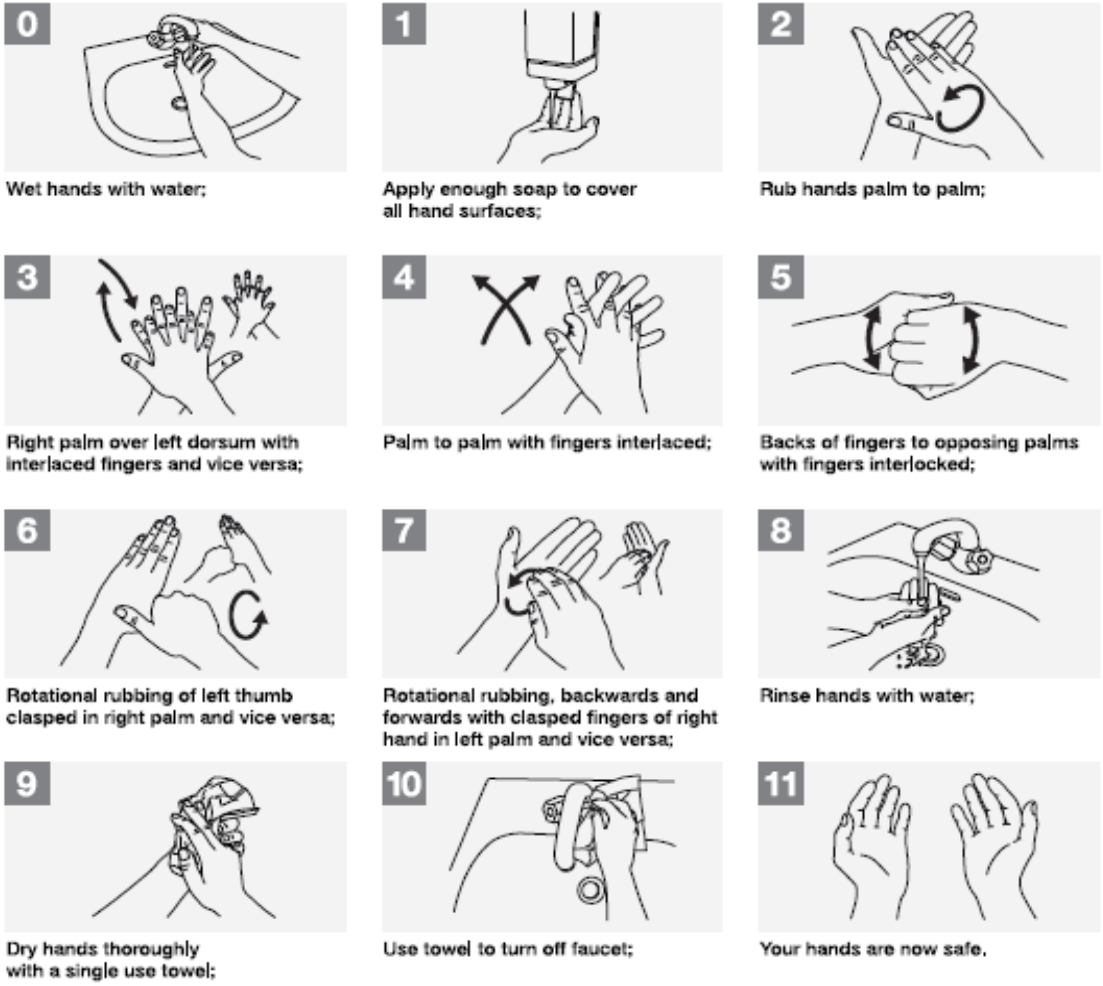
[1] If exposure to spore forming organisms e.g. *Clostridium difficile* is strongly suspected or proven, including during outbreaks – clean hands using soap and water

How to Handrub?

To effectively reduce the growth of germs on hands, **handrubbing** must be performed by following all of the illustrated steps.

This takes only 20–30 seconds!

How to Handwash?



To effectively reduce the growth of germs on hands, **handwashing must last 40–60 secs** and should be performed by following all of the illustrated steps

Hand hygiene and glove use

- The use of gloves does not replace the need to clean your hands!
- You should remove gloves to perform hand hygiene, when an indication occurs while wearing gloves
- You should wear gloves only when indicated, otherwise they become a major risk for germ transmission

Time constraint = major obstacle for hand hygiene

Adequate handwashing with water and soap requires **40–60 seconds**

Average time usually adopted by health-care workers: <10 seconds

Alcohol-based handrubbing: **20–30 seconds**

Summary

- HCAI places a serious disease burden and significant economic impact on patients and health-care systems
- Good hand hygiene – the simple task of cleaning hands at the right times and in the right way – saves lives
- There are 5 Moments for Hand Hygiene in Health Care
- Global compliance with the My 5 Moments for Hand Hygiene approach is universally sub-optimal