

Strengthening IPC for Effective Epidemic Preparedness

FOCAL PERSONS IPC TRAINING

Topic: HAND HYGIENE PRACTICE

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Atlantic Fellows



Outline

- Learning objectives
- Introduction
- Definitions
- Hands and spread of infections
- Five moments of hand hygiene
- Types of hand hygiene procedure
- Proper hand washing techniques
- Conclusion
- References



Learning Objectives

- ✓ Describe the different types of hand hygiene in healthcare settings
- ✓ Identify the role hand hygiene plays in HAI prevention
- ✓ Identify the right moments for hand hygiene.
- ✓ Describe the correct techniques for hand hygiene.

Introduction

- According WHO, available evidence shows that compliance with hand hygiene recommendations during health care delivery remains suboptimal around the world, with an average of 59.6% compliance levels in intensive care units up to 2018, and extreme differences between high income and low income countries (64.5% vs 9.1%).
- Appropriate hand hygiene prevents up to 50% of avoidable infections acquired during healthcare delivery.
- Hand hygiene compliance is recommended as one of the key performance indicators for infection prevention and control programmes, patient safety and quality of health services worldwide



Washing hands Hygiene. Cleaning Hands.
Washing hands. Washing Hands Stock Photo

WHAT IS HAND HYGIENE?

- The term “hand hygiene” refers the action of cleaning hands either by using:
Soap and water commonly called Hand Washing,
Or
Alcohol-base hand rub (ABHR) referred to as Hand Sanitizing



Hand and spread of infections

- Ignaz Semmelweis (1818-1865) recognized that transmission of puerperal fever could be prevented if doctors disinfected their hands with chlorinated lime before examining the women.
- Recognized that the hands could spread disease-causing microbes
- Today we know that the hands are the main vehicles implicated in the spread of hospital infections



Bacterial Multiplication on hands

- Our hands can harbour a multitude of microorganisms, and the number that can accumulate on the hands within the space of a few hours can be as high as 100,000 or more per hand.

With 2 divisions per hour:

Baseline (starting point)	1 cell
1 hour	4 cells
2 hours	16 cells
5 hours	4,096 cells
10 hours	1,048,576 cells
17 hours	17,179,869,184 cells

After 17 hours one single cell will have given rise to

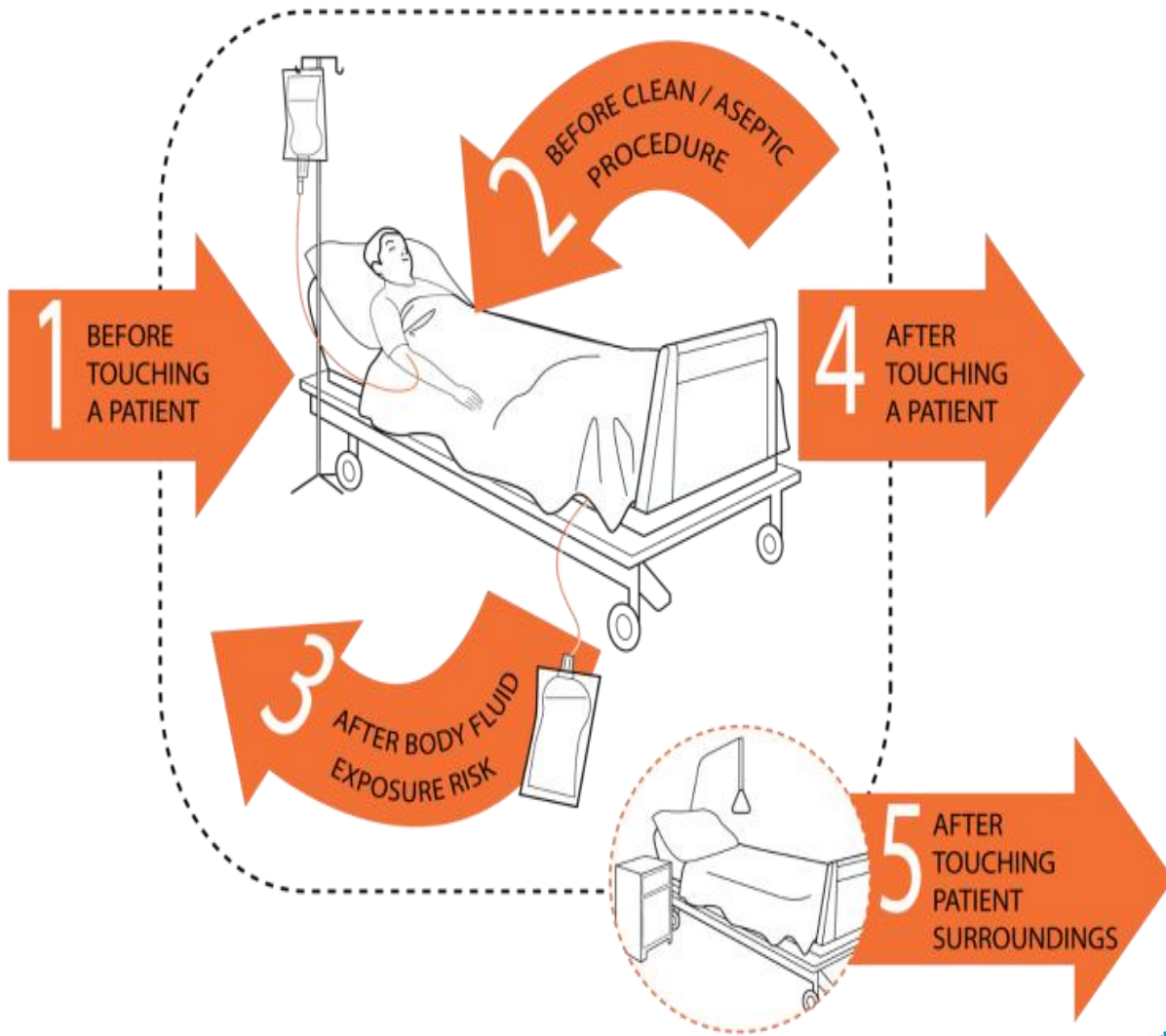
17 billion 179 million 869 thousand 184 bacterial cells

Healthcare Associated infections HAIs

- Healthcare-acquired infections (HAIs), also known as nosocomial infections, are infections that patients get while receiving treatment for medical or surgical conditions.
- HAIs include surgical site infections (SSI), central line-associated blood stream infections (CLABSI), Catheter-associated urinary tract infections (CAUTI), and ventilator-associated pneumonia (VAP)



Five moments of hand hygiene



Prior to touching a patient

- Prior to entering patient care area to provide care
- Prior to vascular access site
- Prior to adjusting or removing cannulation needles

Prior to aseptic procedures

- Prior to cannulation or accessing catheter
- Prior to performing catheter site care
- Prior to parenteral medication preparation
- Prior to administering IV medication or infusion

After body fluid exposure risk

- After exposure any blood or fluid
- After contact with other contaminated fluids
- After handling used equipment
- After performing wound care or wound changes

After touching a patient

- When leaving patient care area after caring for a patient
- After removing gloves

After touching patient surroundings

- After touching ward equipment
- After touching other items within the ward
- When leaving patient care area
- After removing gloves

TYPES OF HH PROCEDURE



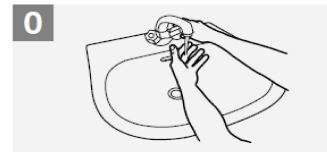
1. **Routine hand washing using soap and water—removes dirt/soil and reduces microorganisms**
2. **Alcohol based hand rub (ABHR) — reduces microorganisms; greater convenience leads to better hand hygiene adherence**
3. **Surgical hand scrub—asepsis rids the skin of dirt/soil, transient microorganisms and reduces normal flora to a minimum**

HAND HYGIENE TECHNIQUES

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

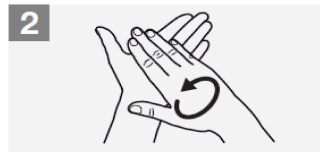
Duration of the entire procedure: 40-60 seconds



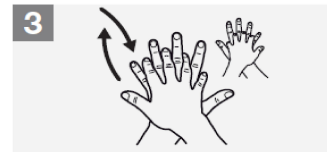
0 Wet hands with water;



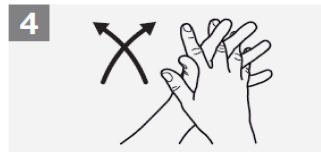
1 Apply enough soap to cover all hand surfaces;



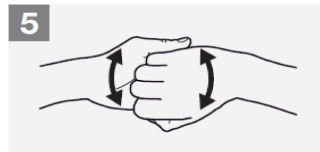
2 Rub hands palm to palm;



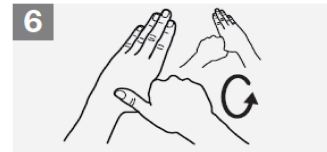
3 Right palm over left dorsum with interlaced fingers and vice versa;



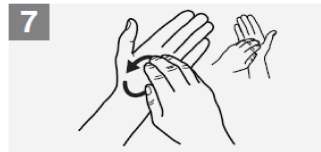
4 Palm to palm with fingers interlaced;



5 Backs of fingers to opposing palms with fingers interlocked;



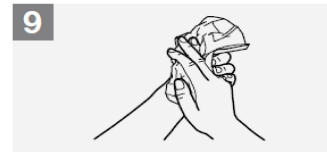
6 Rotational rubbing of left thumb clasped in right palm and vice versa;



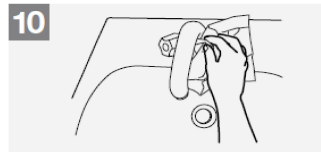
7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



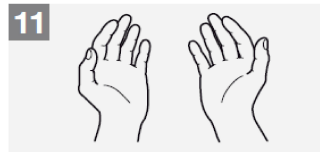
8 Rinse hands with water;



9 Dry hands thoroughly with a single use towel;



10 Use towel to turn off faucet;



11 Your hands are now safe.

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

Duration of the entire procedure: 20-30 seconds



1a Apply a palmful of the product in a cupped hand, covering all surfaces;



2 Rub hands palm to palm;



3 Right palm over left dorsum with interlaced fingers and vice versa;



4 Palm to palm with fingers interlaced;



5 Backs of fingers to opposing palms with fingers interlocked;



6 Rotational rubbing of left thumb clasped in right palm and vice versa;



7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



8 Once dry, your hands are safe.



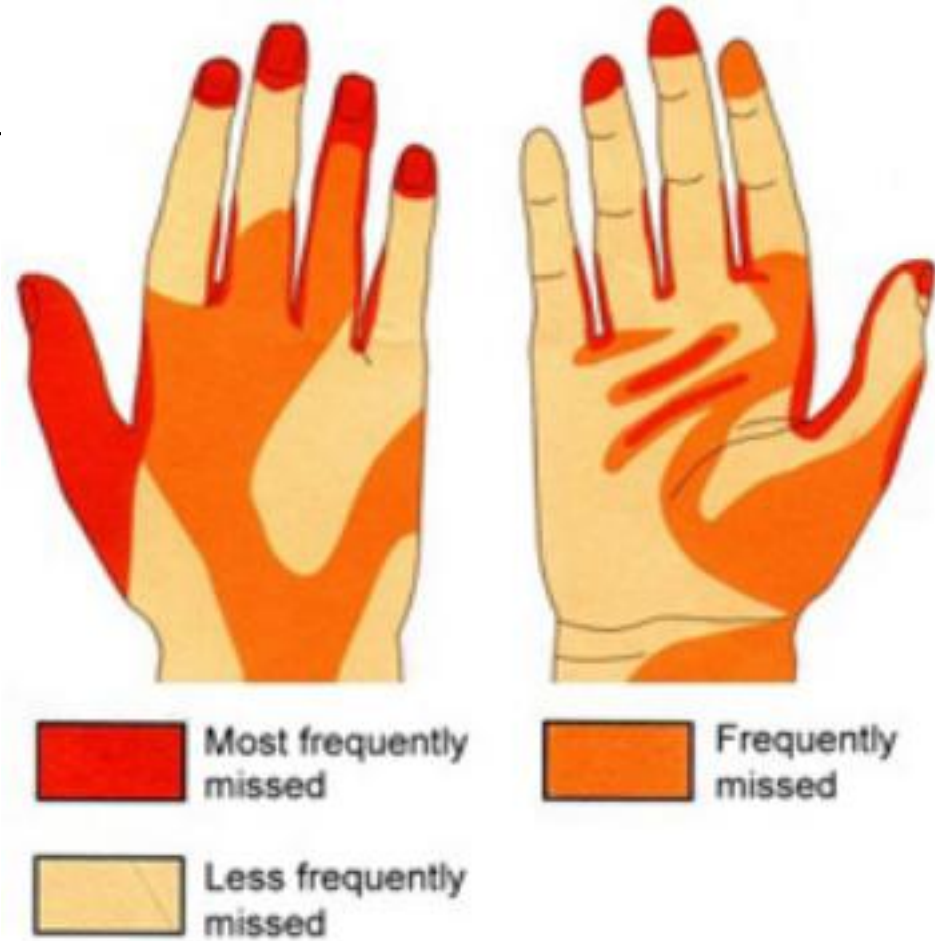
World Health Organization

Patient Safety
A World Away or Just a Walk Away

SAVE LIVES
Clean Your Hands

Areas with disinfection gaps

Areas with disinfection gaps		Gaps [%]
Underside of hand	Fingertips	35%
	Thumbs	12%
	Palms	7%
	Interdigital spaces (area between the fingers)	3%
Back of hand	Thumbs	56%
	1st finger joints	33%
	Back of hand	27%
	Interdigital spaces	13%



Frequently reported Obstacles to hand hygiene



✓ **I was too busy**

Consider hand hygiene part of your excellence in providing care

✓ **Oh, I simply forgot**

Make it a habit!

✓ **I wore gloves**

Gloves are not 100% protective and are no substitute for hand hygiene

✓ **It borders my skin**

- **Avoid using hot water**
- **Use lotions & hand rub frequently**

Frequently reported challenges Regarding hand hygiene

- Insufficient supply of liquid soap to the ward
- Insufficient hand washing points on the ward
- Patients unable to purchase alcohol-based hand rubs due to lack of funds
- Erratic supply of water to the ward



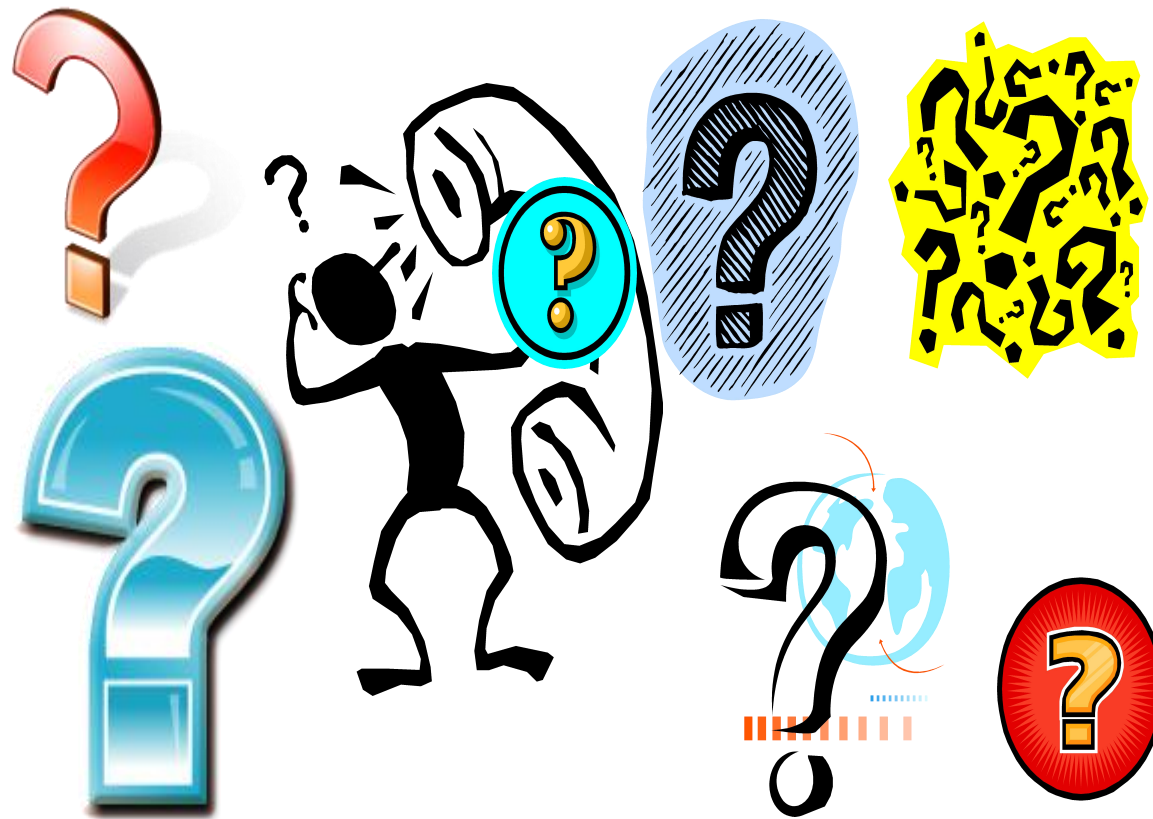
RECOMMENDATIONS FOR IMPROVEMENT



1. Place HH sink in the middle of ward rather than one end of the ward for easier access or have patients keep ABHR at bedside
2. Mount ABHR on wall and place some on nurses desks
3. Ensure sustainable supply of disinfectants and soap to the wards
4. Regularly wash your hands when attending to patients

Conclusion

- ❑ Hand hygiene is the single most important thing you can do to prevent infection!
- ❑ Hand washing, hand sanitizing with an alcohol-based rub, and surgical scrubbing are the three types of hand hygiene
- ❑ The five moments of hand hygiene are before and after touching a patient, before a procedure, after body fluid exposure, and after touching patient surroundings.
- ❑ Other moments include before and after eating or using the toilet, upon arrival at work, and before and after gloving
- ❑ Hand washing should be with soap and running water and last about 20 – 30 secs
- ❑ You should always wash hands when they are visibly soiled.



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- ❑ Ellis H. Ignaz Semmelweis: tragic pioneer in the prevention of puerperal sepsis. *Br J Hosp Med (Lond)* 2008;69:358.
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- ❑ Rosenthal V.D. Guzman S. Crnich C. **Device-associated nosocomial infection rates in intensive care units of Argentina.** *Infect Control Hosp Epidemiol.* 2004; **25**: 251-255
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- ❑ <https://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf#page=19>
- ❑ <https://www.cdc.gov/hai/infectiontypes.html>



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