

Hand hygiene and isolation procedures in UCC of Gdansk

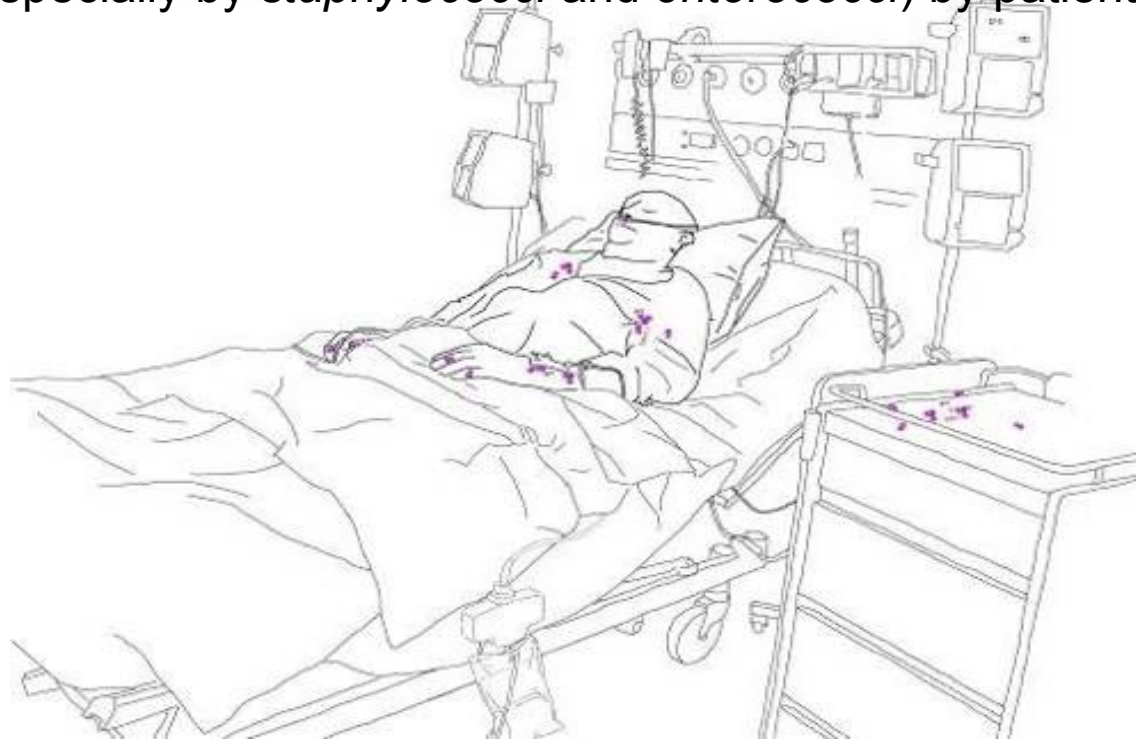
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- Hands are the most common vehicle to transmit health care-associated pathogens
- **Source of 90% of hospital infections is defective hand disinfection**
- Transmission of health care-associated pathogens from one patient to another via health-care workers' hands requires **5 sequential steps**

Hand transmission: Step 1

Germs are present on patient skin and surfaces in the patient surroundings

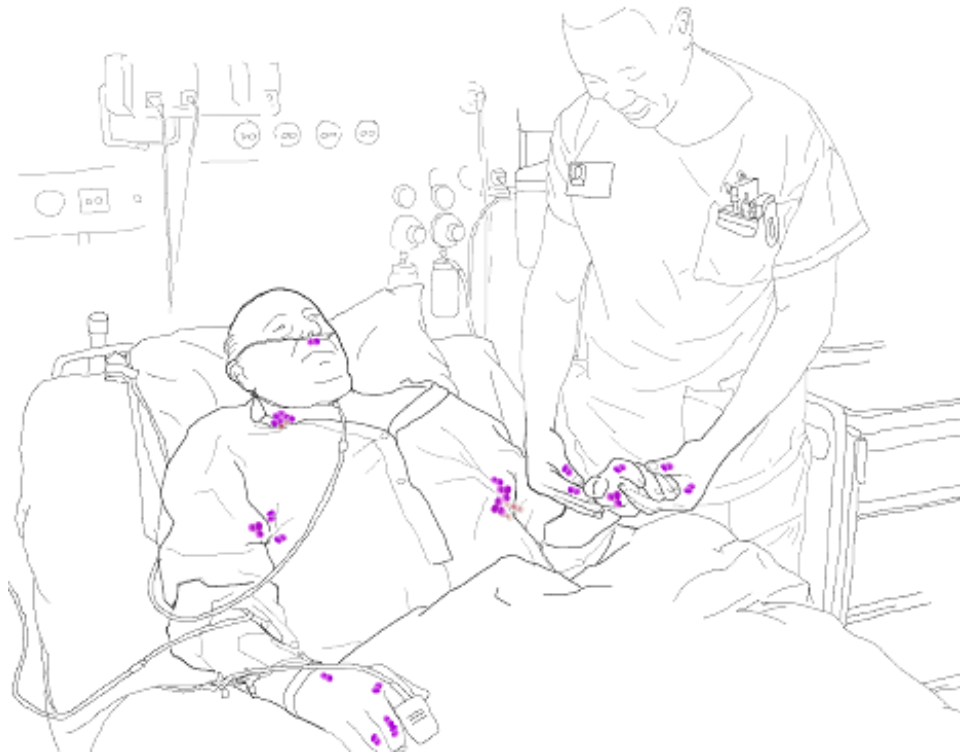
- Germs (*S. aureus*, *P. mirabilis*, *Klebsiella* spp. and *Acinetobacter* spp.) present on intact areas of some patients' skin: 100^{-1} million colony forming units (CFU)/cm²
- Nearly 1 million skin squames containing viable germs are shed daily from normal skin
- Patient immediate surroundings (bed linen, furniture, objects) become contaminated (especially by *staphylococci* and *enterococci*) by patient germs



Hand transmission: Step 2

By direct and indirect contact, patient germs contaminate health-care workers' hands

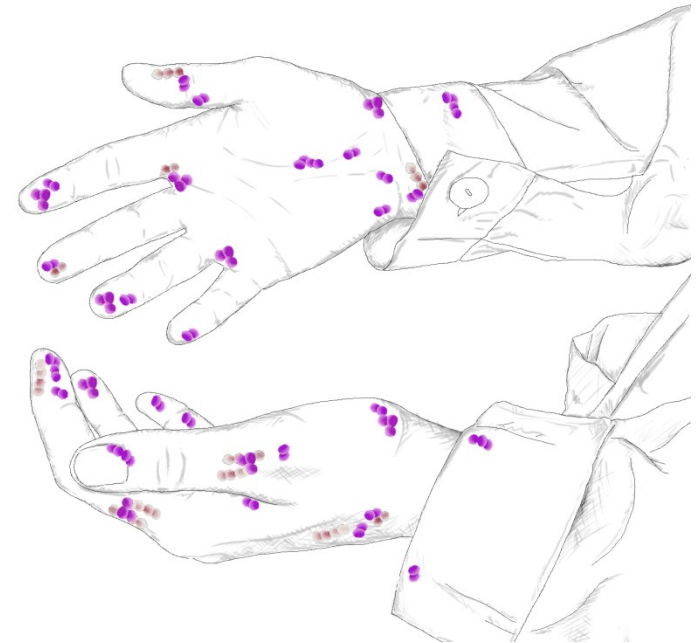
- Nurses could contaminate their hands with 100–1,000 CFU of *Klebsiella* spp. during “clean activities (lifting patients, taking the patient's pulse, blood pressure, or oral temperature)
- 15% of nurses working in an isolation unit carried a median of 10,000 CFU of *S. aureus* on their hands
- In a general health-care facility, 29% nurses carried *S. aureus* on their hands (median count: 3,800 CFU) and 17–30% carried Gram negative bacilli (median counts: 3,400–38,000 CFU)



Hand transmission: Step 3

Germs survive and multiply on health-care workers' hands

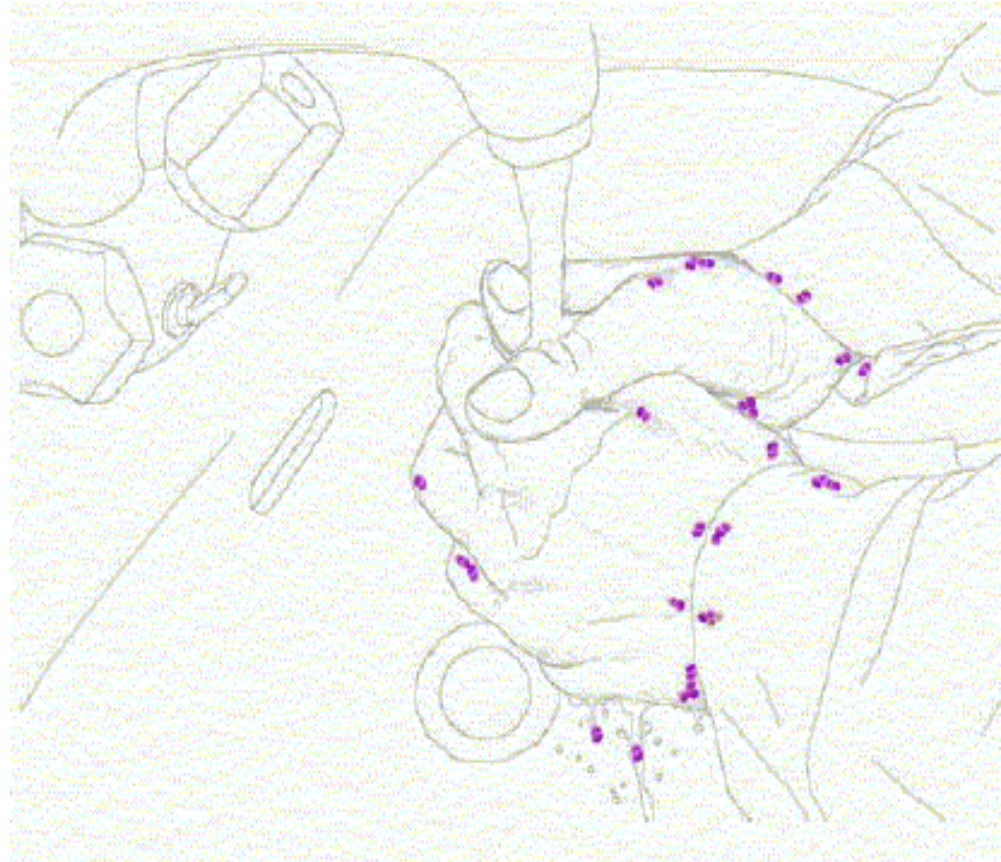
- Following contact with patients and/or contaminated environment, germs can survive on hands for differing lengths of time (2–60 minutes)
- In the absence of hand hygiene action, the longer the duration of care, the higher the degree of hand contamination



Hand transmission: Step 4

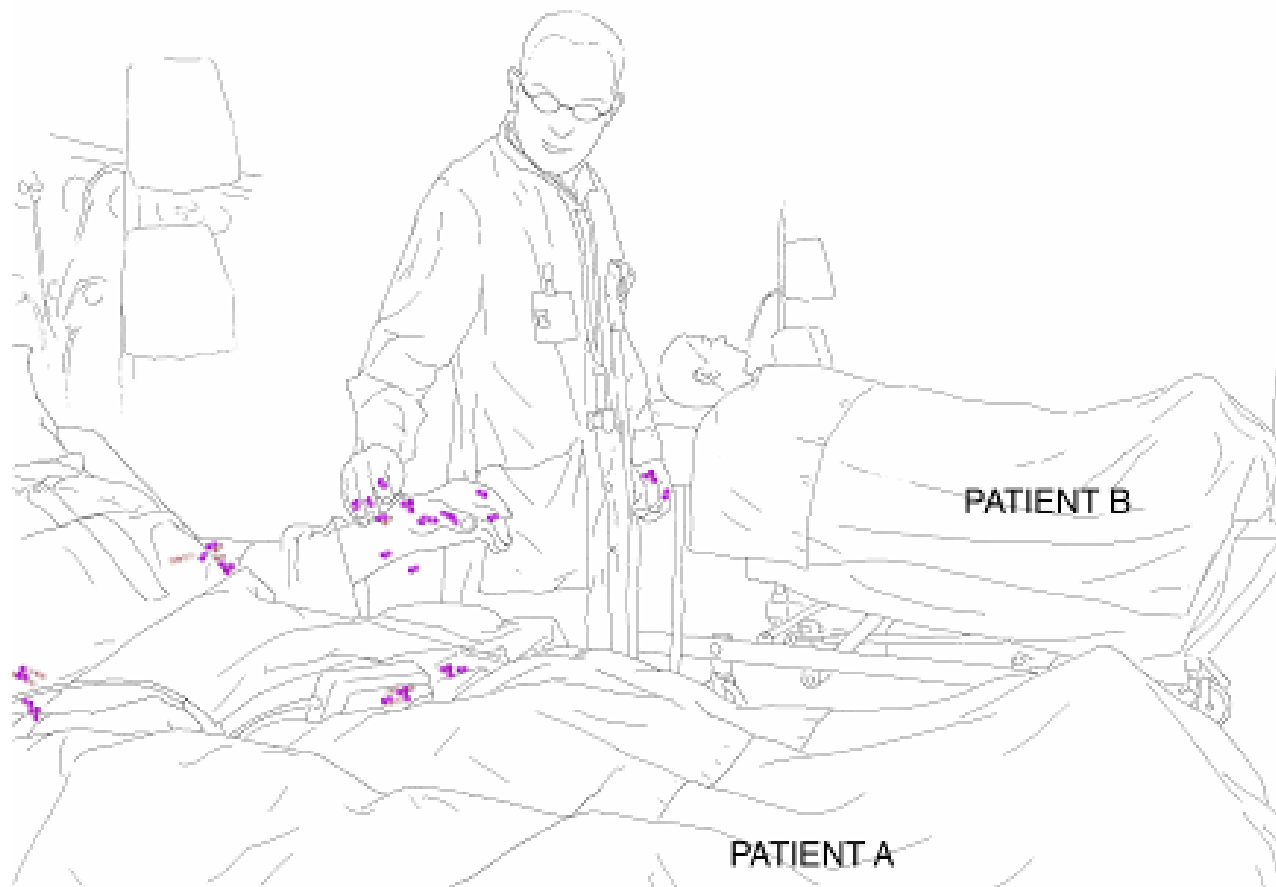
Defective hand cleansing results in hands remaining contaminated

- Insufficient amount of product and/or insufficient duration of hand hygiene action lead to poor hand decontamination
- Transient microorganisms are still recovered on hands following handwashing with soap and water, whereas handrubbing with an alcohol-based solution has been proven significantly more effective



Hand transmission: Step 5

Germ cross-transmission between patient A and patient B via health-care worker's hands



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

Hand hygiene

- Handwashing with soap and water when hands are visibly dirty or following visible exposure to body fluids
- Adoption of alcohol- based handrub is the gold standard in all other clinical situations
- Proper hand disinfection should take 30 seconds. Allow the cleaning agent to dry. Each hand should be thoroughly disinfected with an antiseptic gel or solution. Next, the gel should be left to dry. Do not dry your hands with a towel!

Why should you clean your hands?

- Any health-care worker, caregiver or person involved in patient care needs to be concerned about hand hygiene
- Therefore hand hygiene does concern **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 golden rules for hand hygiene

Hand hygiene must be performed exactly where **you** are delivering health care to patients (at the point-of-care)

During health care delivery, there are 5 moments (indications) when it is essential that **you** perform hand hygiene ("**My 5 Moments for Hand Hygiene**" approach)

To clean your hands, **you** should prefer **handrubbing** with an alcohol-based formulation, if available. Why? Because it makes hand hygiene possible right at the point-of-care, it is faster, more effective, and better tolerated.

You should wash your hands with soap and water when visibly soiled

You must perform hand hygiene using the appropriate technique and time duration

How to handrub:

1a



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

1b



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.



Inaccurate scrubbed hands (pink and grey – places when bacteria resisted)

Obszary dłoni najczęściej pomijane podczas zabiegu dezynfekcji i mycia rąk

Strona dloniowa

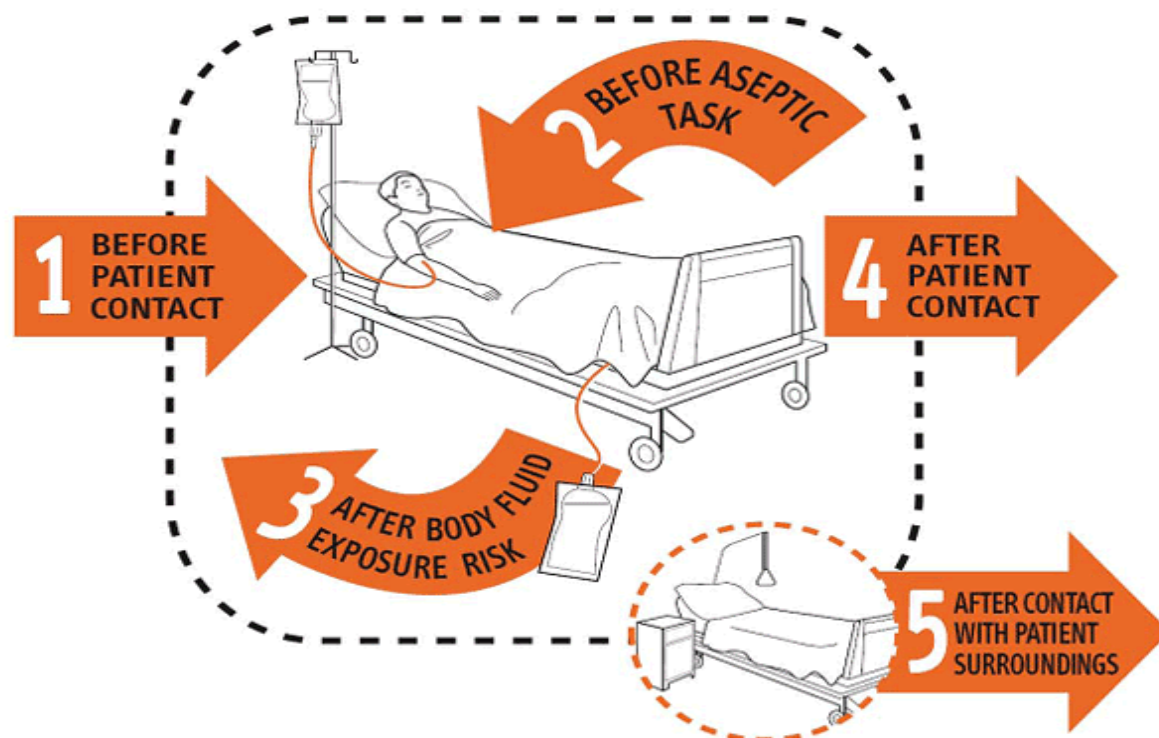


Strona grzbietowa

 najczęściej pomijane
 stosunkowo często pomijane

Your 5 moments for HAND HYGIENE

Image credit: JPL/stock



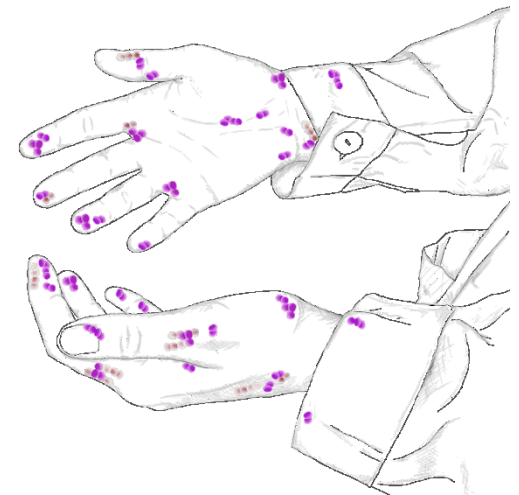
1 BEFORE PATIENT CONTACT	<p>WHEN? Clean your hands before touching a patient when approaching him or her</p> <p>WHY? To protect the patient against harmful germs carried on your hands</p>
2 BEFORE AN ASEPTIC TASK	<p>WHEN? Clean your hands immediately before any aseptic task</p> <p>WHY? To protect the patient against harmful germs, including the patient's own germs, entering his or her body</p>
3 AFTER BODY FLUID EXPOSURE RISK	<p>WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal)</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs</p>
4 AFTER PATIENT CONTACT	<p>WHEN? Clean your hands after touching a patient and his or her immediate surroundings when leaving</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs</p>
5 AFTER CONTACT WITH PATIENT SURROUNDINGS	<p>WHEN? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving - even without touching the patient</p> <p>WHY? To protect yourself and the health-care environment from harmful patient germs</p>

Hand hygiene and glove use



GLOVES PLUS
HAND HYGIENE
= **CLEAN HANDS**

GLOVES WITH
HAND HYGIEN
= **GERM
TRANSMISSIO**

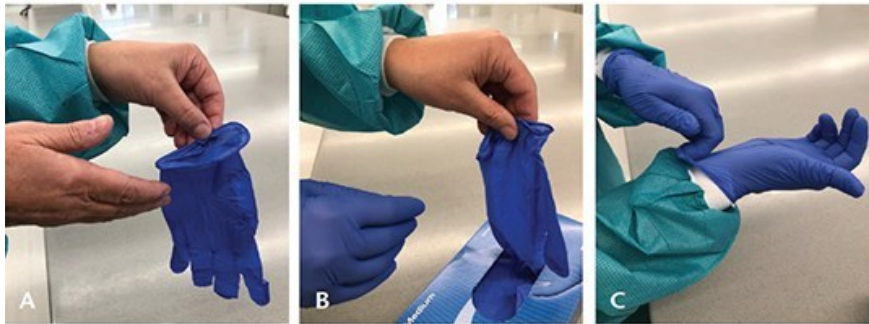
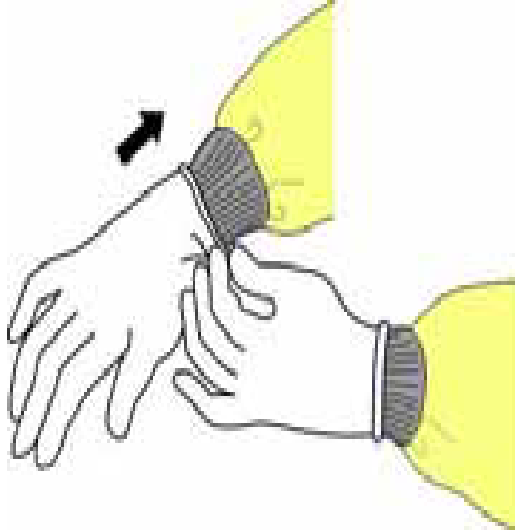


Key points on hand hygiene and glove use

- Indications for glove use do not modify any indication for hand hygiene
- Glove use does not replace any hand hygiene action



Donning gloves



Removing gloves

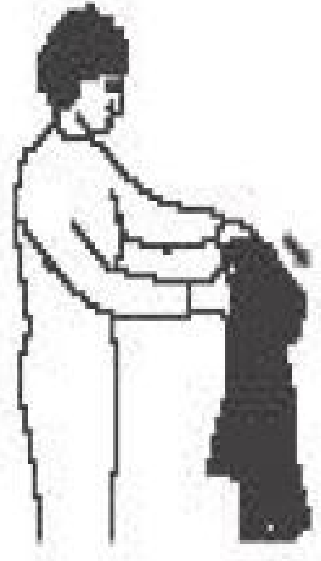
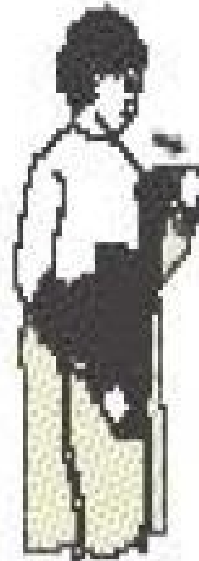
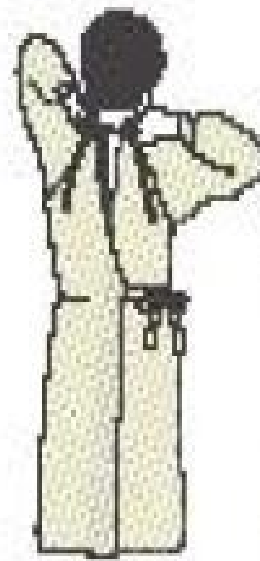
with protective gown



without gown



Donning and doffing protective gown



Removing surgical mask



Donning and doffing protective respiratory mask



STANDARD PRECAUTIONS

A simple, consistent and effective approach to infection control



Handwashing



Use of gloves



Personal protective equipment



Use of fluid resistant gown or apron



Safe handling of sharps



Safe handling of waste



Safe handling of soiled linen



Environmental cleaning

Minimise contact with blood and body substances by utilising safe work practices and protective barriers.

STANDARD PRECAUTIONS APPLY TO ALL PATIENTS

Standard and isolation precautions

Features	Standard precautions	Contact precautions	Droplet precautions	Airborne precautions
Group of patients	All patients, regardless of suspected or confirmed infectious status, in any setting where health-care is delivered	Multidrug-resistant bacteria (MRSA, VRE), <i>Clostridium difficile</i> , diarrhoea, RSV infection	Meningitis, pertussis, influenza, mumps, rubella, diphtheria	Tuberculosis, smallpox. No recommendation on the type of mask to be used in case of measles, chickenpox.
Mask or face shield/ goggles	Before procedures likely to generate splashes or sprays of blood, body fluids, secretions or excretions	Standard	Mask upon entering the room; standard for eye protections	Fit-tested, NIOSH-approved N95 respirator when entering the room

Standard and isolation precautions

Features	Standard precautions	Contact precautions	Droplet precautions	Airborne precautions
Patient room	Standard	Single room	Single room	Single room; door closed; negative pressure; 6–12 air changes/hour; appropriate discharge of air outdoors or air filtration
Hand hygiene	Before and after patient contact, after contact with blood, body fluids, excretions, mucous membranes, non-intact skin, wound dressings, between a contaminated body site and a clean body site, after contact with objects in patient surroundings, after glove removal	Standard (patient with C. difficile – hand washing)	Standard	Standard

Standard and isolation precautions

Features	Standard precautions	Contact precautions	Droplet precautions	Airborne precautions
Gloves	Before contact with body fluids and contaminated items; non-sterile, examination gloves	Upon entering the room; non-sterile, examination gloves	Standard	Standard
Isolation gown	If contact with blood or body fluids is anticipated	Standard; upon entering the room when contact with the patient or environmental surfaces is anticipated, or if the patient has diarrhoea, open wound drainage, secretions	Standard	Standard

Contact Precautions



Clean hands with
alcohol-based hand rub
or soap and water



Wear gloves when
providing direct care



Wear gown when
providing direct care



CONTACT ISOLATION PRECAUTIONS

Visitors ~ See Nurse before entering



Clean Hands ~ Gown ~ Gloves



N-95 for High-Hazard Procedures (See other side)



DROPLET ISOLATION PRECAUTIONS

Visitors ~ See Nurse before entering



Clean Hands ~ Surgical Mask ~ Eye Protection



N-95 for High Hazard Procedures (See other side)



AIRBORNE ISOLATION PRECAUTIONS

Visitors ~ See Nurse before entering

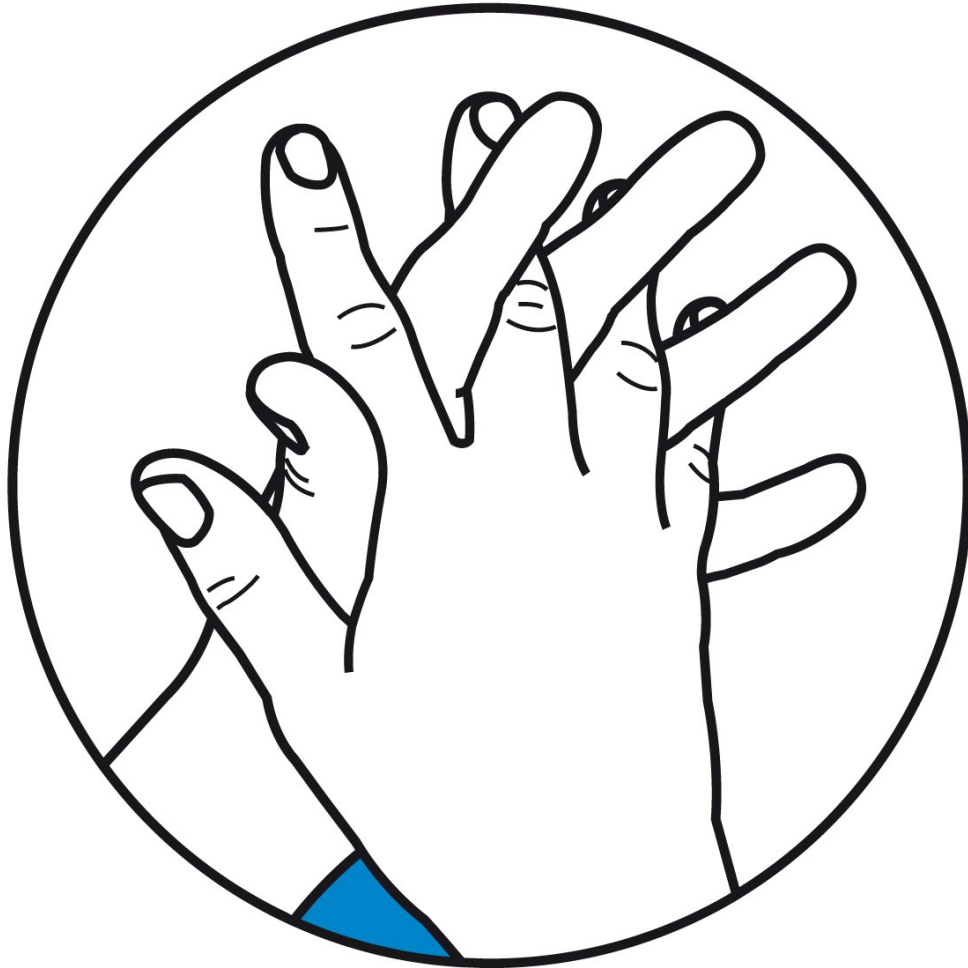


Clean Hands ~ N-95 or PAPR ~ Negative Pressure / Door Closed




PAPR for High Hazard Procedures (See other side)

Are your hands clean?



- **SAVE
LIVES**
- **Clean Your Hands**



Protect yourself
Protect others

Practice infection control



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