

NOSOCOMIAL(HEALTH CARE ASSOCIATED) INFECTIONS

CONTROL & PREVENTATION

- ⦿ **Infections that patients acquire during the course of receiving treatment for other conditions within a healthcare setting (and not present or incubating on admission).**
- ⦿ ***inpatient day care long term placement.**

A baby was born prematurely.



She was progressing in the neonatal intensive care unit until she developed a bloodstream infection related to her umbilical catheter.

A man has open heart surgery.



The surgery goes well but he later dies of a MRSA wound infection that developed after surgery.

lady contracts *Clostridium difficile* after giving birth.



She has lived with this unbearable infection through 6 months of relapses.





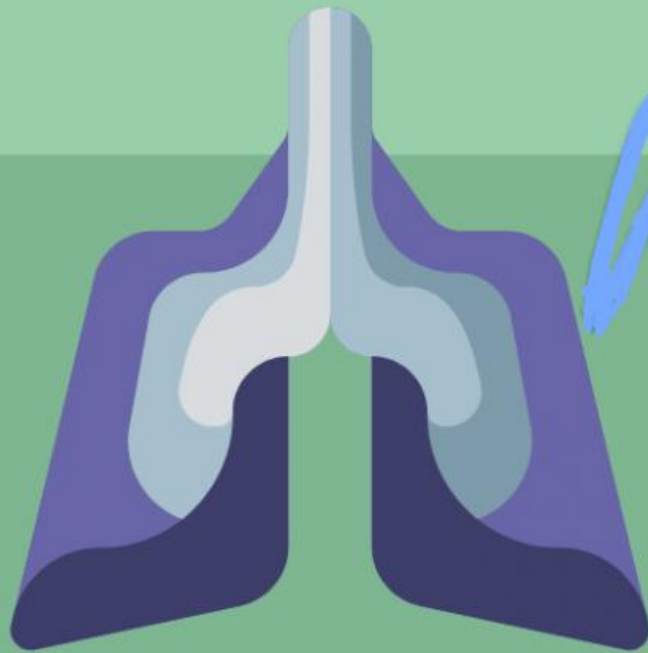


Decreasing Your Risk of an
AV Fistula Infection or
AV Graft Infection

VAP

What is VAP?

(Ventilator-Associated Pneumonia)



- **Infection Control**—The process by which health care facilities develop and implement specific policies and procedures to prevent the spread of infections among health care staff and patients

Epidemiology of Nosocomial Infections

- Most common sites for nosocomial infections
 - Surgical incisions
 - Urinary tract (i.e., catheter-related)
 - Lower respiratory tract
 - Bloodstream (i.e., catheter-related)

Epidemiology of Nosocomial Infections

Common microorganisms??

- Aerobic gram-positive cocci (*Staphylococcus aureus* [MRSA], enterococci [vancomycin-resistant]),
- Aerobic gram-negative bacilli (*Escherichia coli*, *P. aeruginosa*, *Enterobacter* spp., and *Klebsiella pneumoniae*)

Epidemiology of Nosocomial Infections

Nosocomial transmission of community acquired, multidrug-resistant organisms

- *M. tuberculosis*
- *Salmonella* spp.
- *Shigella* spp.
- *V. cholerae*

1st principle of infection prevention

at least 35-50% of all healthcare-associated infections are associated with only 5 patient care practices:

- ① Use and care of urinary catheters
- ② Use and care of vascular access lines
- ③ Therapy and support of pulmonary functions
- ④ Surveillance of surgical procedures
- ⑤ Hand hygiene and standard precautions

Healthcare-Associated Urinary Tract Infection

- Urinary tract infection (UTI) causes ~ 40% of hospital-acquired infections
- Most infections due to urinary catheters
- 25% of inpatients are catheterized
- Leads to increased morbidity and costs

Prevention of Catheter-Associated Urinary Tract Infection (CA-UTI)

Two main principles

Avoid unnecessary catheterization

Limit the duration of catheterization

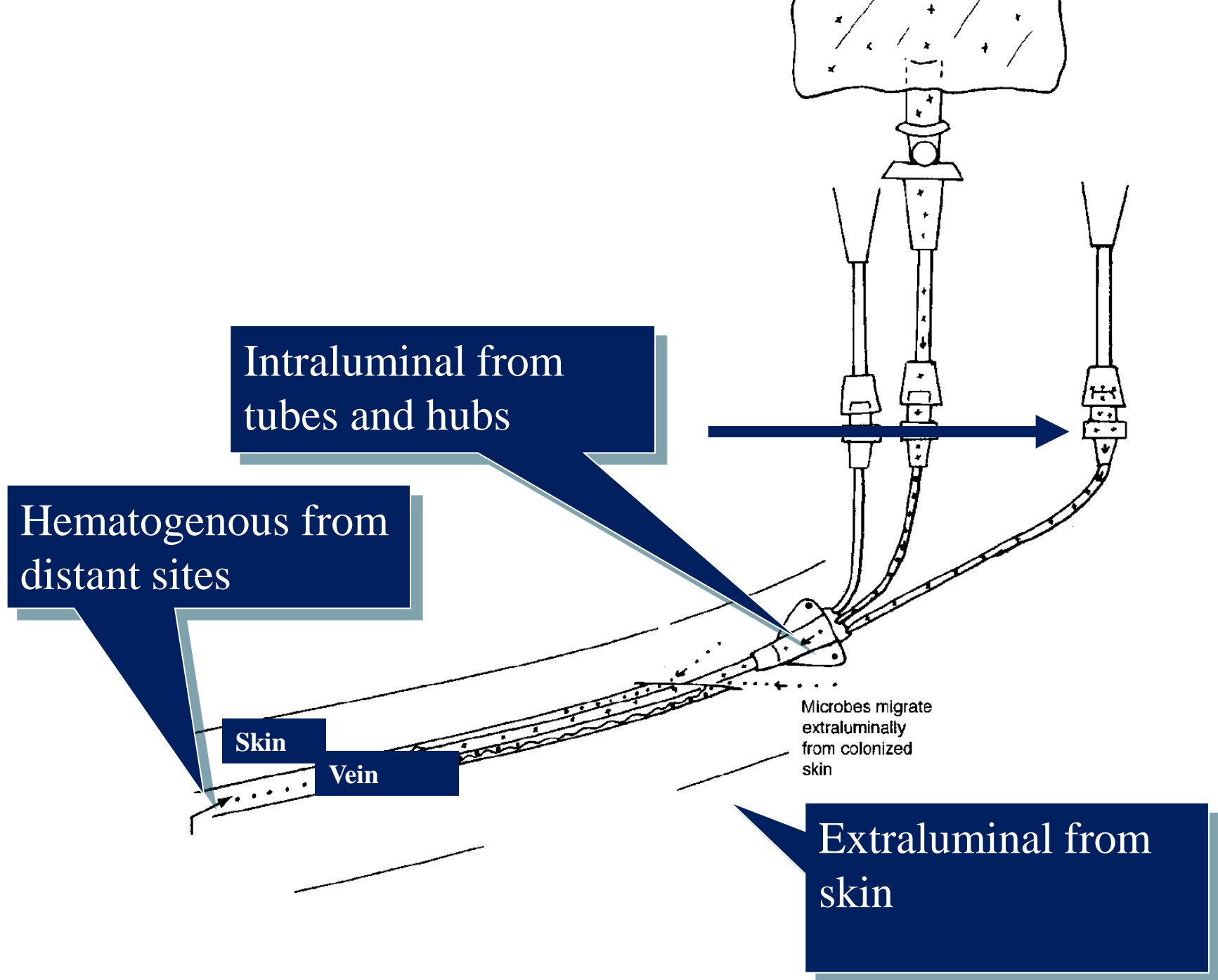
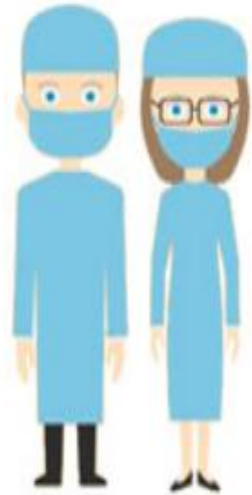


Figure. Source of intravascular catheter-related infections.

Intervention strategies to reduce catheter-associated bloodstream infections:

- Hand hygiene
- Maximal sterile barrier precaution at insertion
- Skin antisepsis with alcohol-based chlorhexidine-containing products





50%

of surgical teams

do not follow
the standard hygiene
practices



35%

of health care
facilities in low
and middle income
countries

do not have
soap and water
for hand hygiene

Posters

English

Arabic

French

Video



Hand hygiene Day 2016

■ **Statistics and figures**

Regional Health

Observatory

Acinetobacter baumannii can be transferred from contaminated nitrile examination gloves to polypropylene plastic surfaces

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Improper use
lead to problems



- Daily review of line necessity
- Standardized catheter care using a non-touch technique
- Respecting the recommendations for dressing change



- ◎ Subclavian access as the preferred insertion site





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Risk factors for Ventilator-Associated Pneumonia (VAP)

Patient

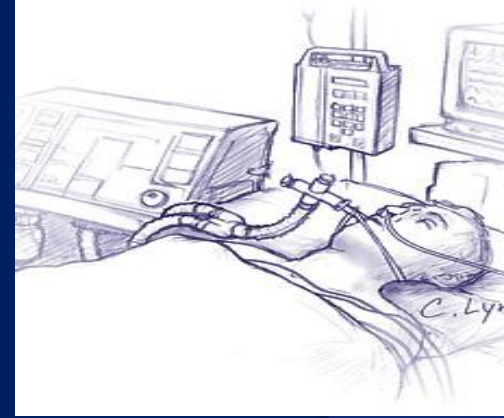
- ⦿ Age
- ⦿ Coma
- ⦿ Lung disease
- ⦿ Immunosuppression
- ⦿ Malnutrition

Devices

- ⦿ Duration of invasive ventilation
- ⦿ Reintubation



VAP Prevention



- Hand hygiene before and after patient contact, preferably using alcohol-based handrubbing
- Avoid endotracheal intubation if possible
- Minimize the duration of mechanical ventilation
- Promote tracheostomy when ventilation is needed for a longer term
- Glove and gown use for endotracheal tube manipulation.

VAP Prevention (con't)

- Oral hygiene with chlorhexidine
- Backrest elevation 30-45°
- Promote enteral feeding



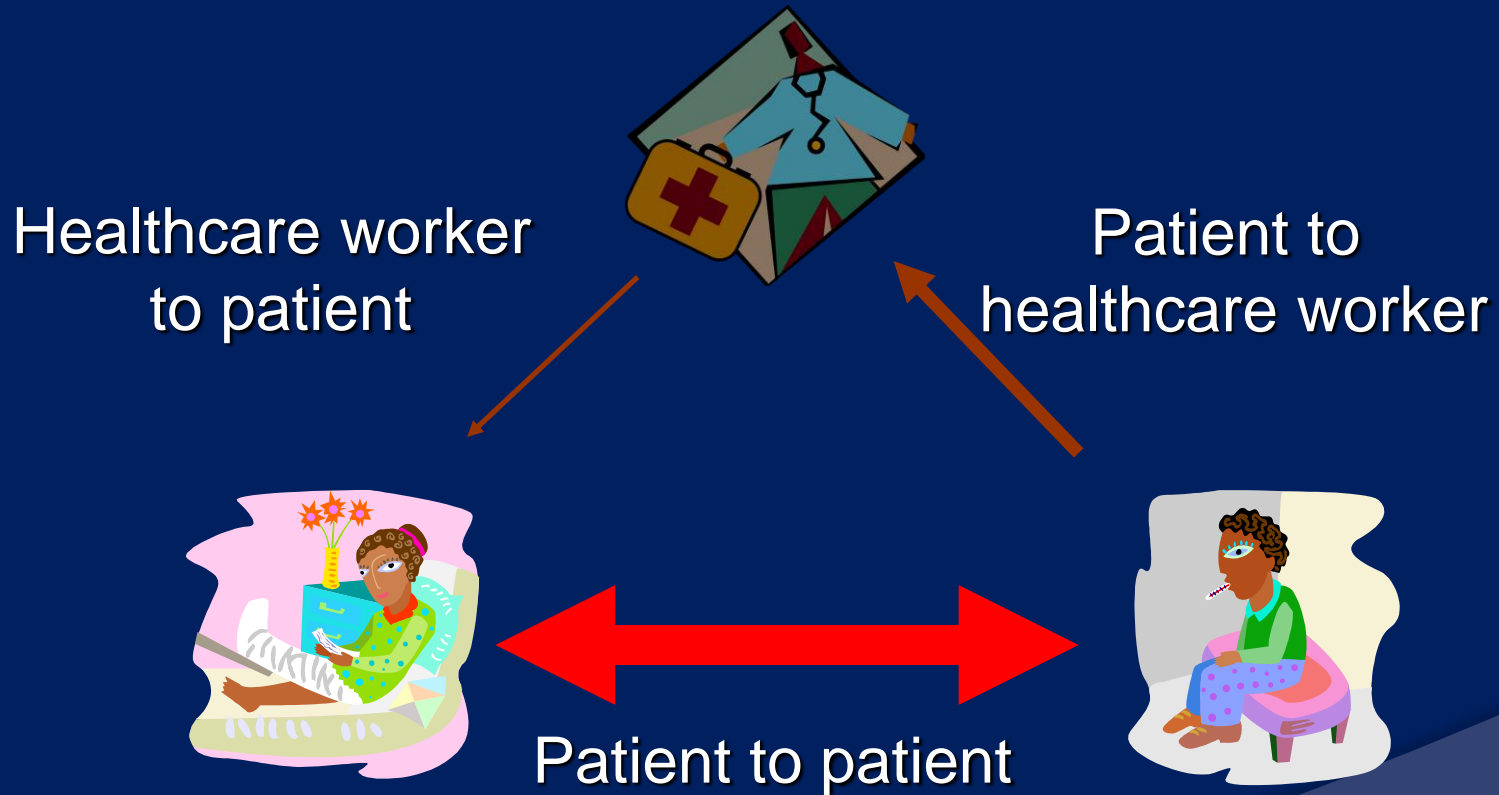
Elevation of the head of bed (HOB)

Healthcare-associated Infections

Impact

- ❑ HAIs rank among the most important causes of death in the developing world
- ❑ High cost of healthcare
 - ❑ Length of stay, increased use of antibiotics,
 - ❑ Need for isolation, additional laboratory investigations
- ❑ Organisms may be transmitted to the community
 - ❑ (patients, staff, visitors)
- ❑ Increase in antimicrobial resistance.

Transmission of Healthcare-associated Infections



Standard precautions

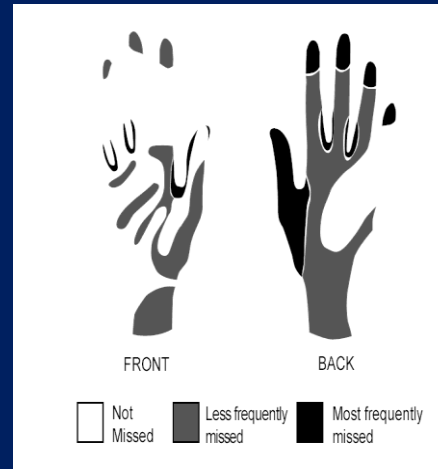
- **Routine** infection control precautions that should apply to **ALL** patients, in **ALL** healthcare settings.
- Designed to facilitate **SAFE** medical procedures.
- Protect patients as well as the healthcare workers.

Standard Precautions

- Hand hygiene.
- Use of personal protective equipments.
- Instrument reprocessing .
- Aseptic techniques.
- Environmental cleaning and disinfection.
- Waste management.

Why hand hygiene?

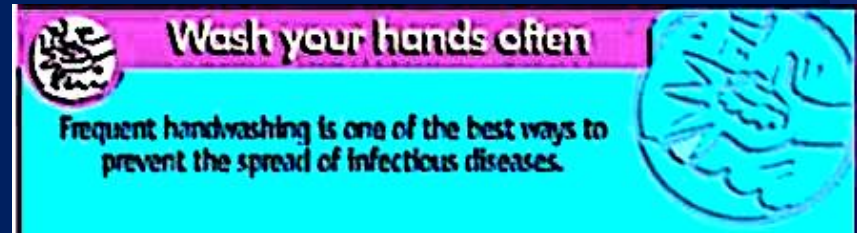
Most common modes of transmission of pathogens in the hospitals are via hands of health care workers!



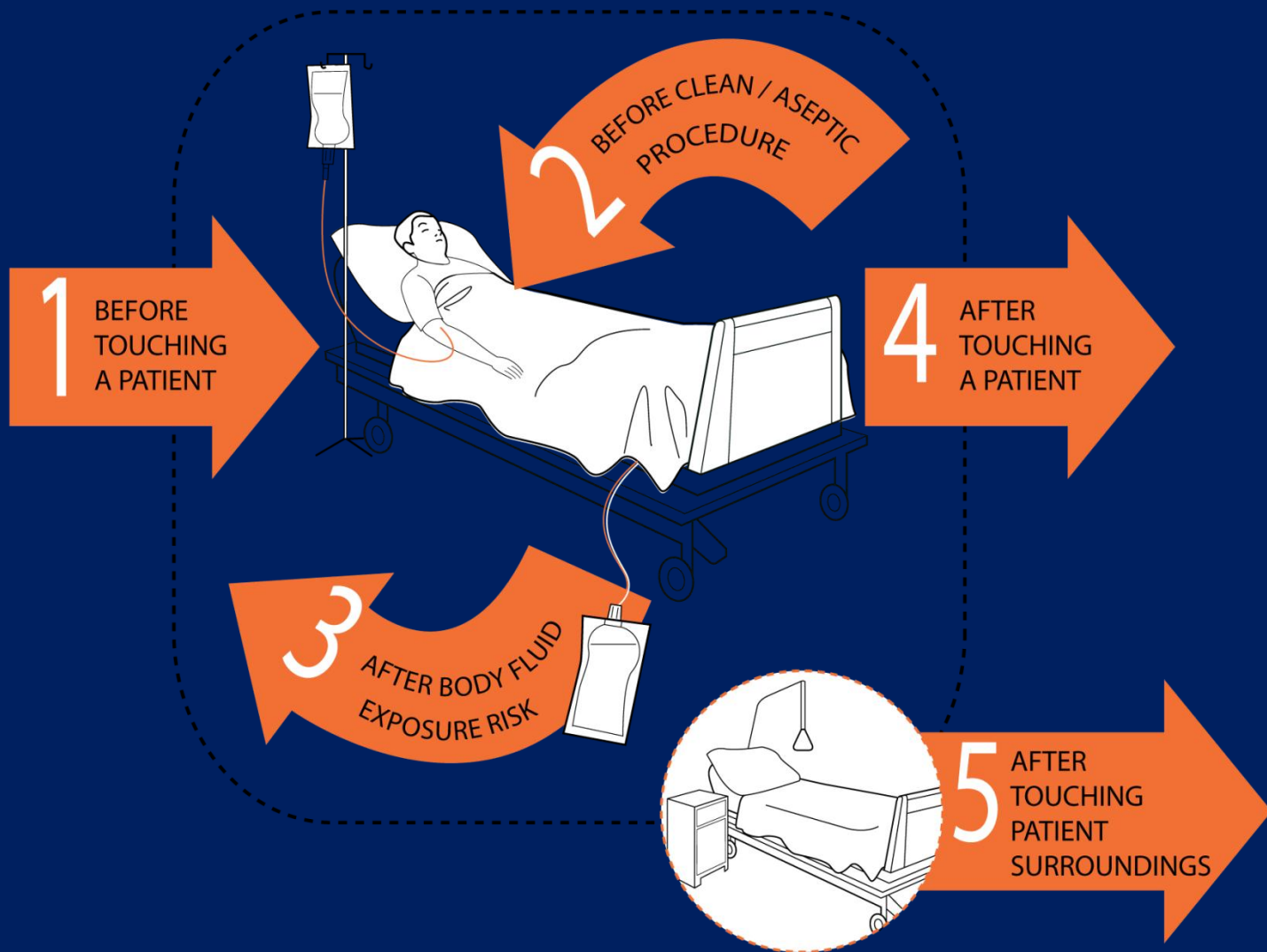
Patient ———> **Object** ———> **HCW Hands** ———> **Patient**

Goal of hand hygiene

Decrease the portion of
Nosocomial infections
spread by hand contact



“My 5 Moments for Hand Hygiene”



PPE Use in Healthcare Settings

Goal

- Improve personnel safety in the healthcare environment through appropriate use of PPE



What is Personal Protective Equipment (PPE)?

- Specialized clothing or equipment worn by an employee for protection against infectious diseases



Personal Protective Equipment

- Gloves – protect hands
- Gowns – protect skin and/or clothing
- Masks and respirators – protect mouth/nose
- Goggles – protect eyes
- Face shields – protect face, mouth, nose and eyes

FACE SHIELD



Aseptic techniques

- **Aseptic** means "without microorganisms."
- **Aseptic technique** refers to practices that help reduce the risk of post procedure infections in clients by decreasing the likelihood that microorganisms will enter the body during clinical procedures.
- Some of these practices are also designed to reduce service providers' risk of exposure to potentially infectious blood and tissues during clinical procedures

Instrument Reprocessing

- Processing instruments used in healthcare make them safe for reuse
- Single use items should be disposed off
 - Never reprocess single use items



- ⦿ Make sure that you understand and can help the patient follow their healthcare provider's instructions for medication(s) and care.
- ⦿ support for getting groceries, prescriptions, and other personal needs.

- ⦿ Monitor the patient's symptoms. If the patient is getting sicker, call his or her healthcare provider and tell them that the patient laboratory result .
- ⦿ Household members should use a separate bedroom and bathroom.
- ⦿ Prohibit visitors.
- ⦿ Pets??.



- ⦿ Hand washing repeat as necessary .
- ⦿ Pt should have mask .
- ⦿ U should wear it if dealing with fluids or pt is not wearing it because of dyspnea.
- ⦿ Dont reuse .
- ⦿ Use a cleaning spray or wipe for surfaces.
- ⦿ Wear disposable gloves while handling soiled item.then remove gloves and wash hands remove mask.wash hand .remove gown wash hands wear new items.

⦿ Thank u