

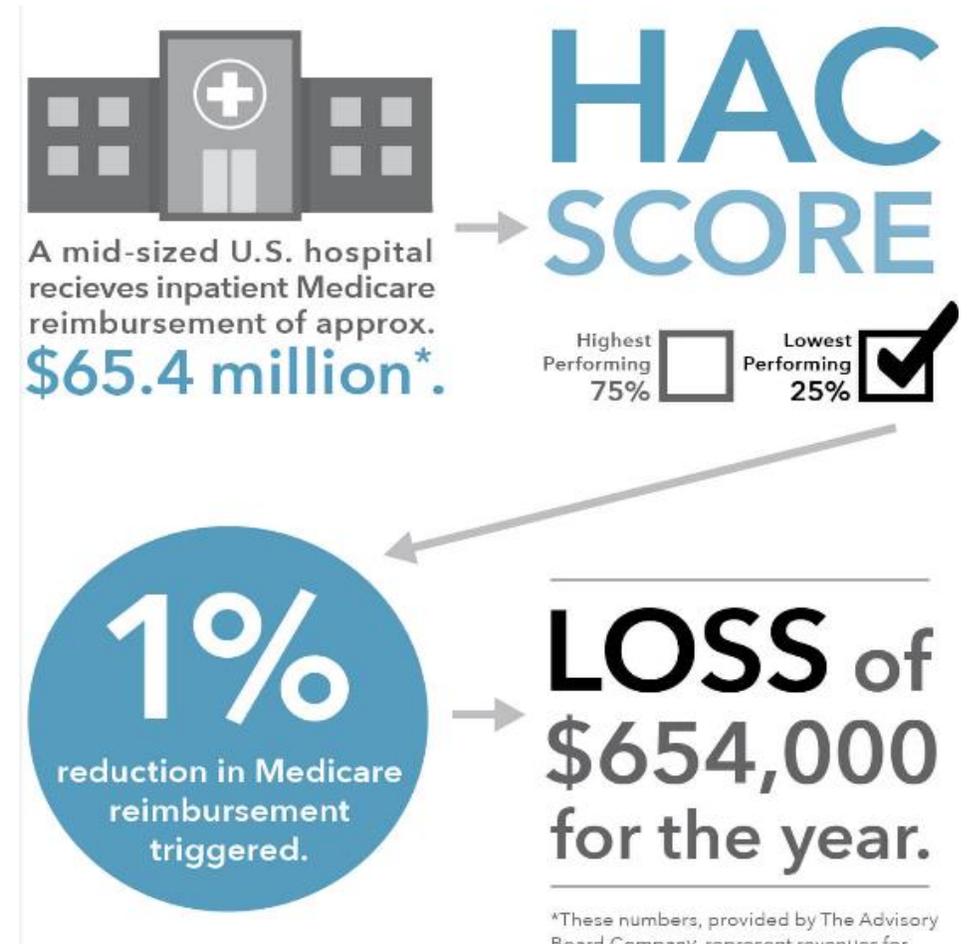
INFECTION PREVENTION

Brenda Dalrymple, BSN, RN, CIC,



IMPACT OF HEALTHCARE-ASSOCIATED INFECTIONS

- Patient Safety
 - HAIs increase morbidity and mortality
- Healthcare Cost
 - Increased length of stay
 - Increased cost of treatment
- CMS Reimbursement
 - Value-Based Purchasing Program (2%)
 - HAC Reduction Program (1%)
 - Hospital Readmissions Program (2%)



CORE INFECTION PREVENTION AND CONTROL- STANDARDS FOR SAFE HEALTHCARE DELIVERY

Hand Hygiene

Minimize
potential
exposures

Environmental
cleaning and
disinfection

Injection and
medication
safety

Temporary
invasive
medical devices

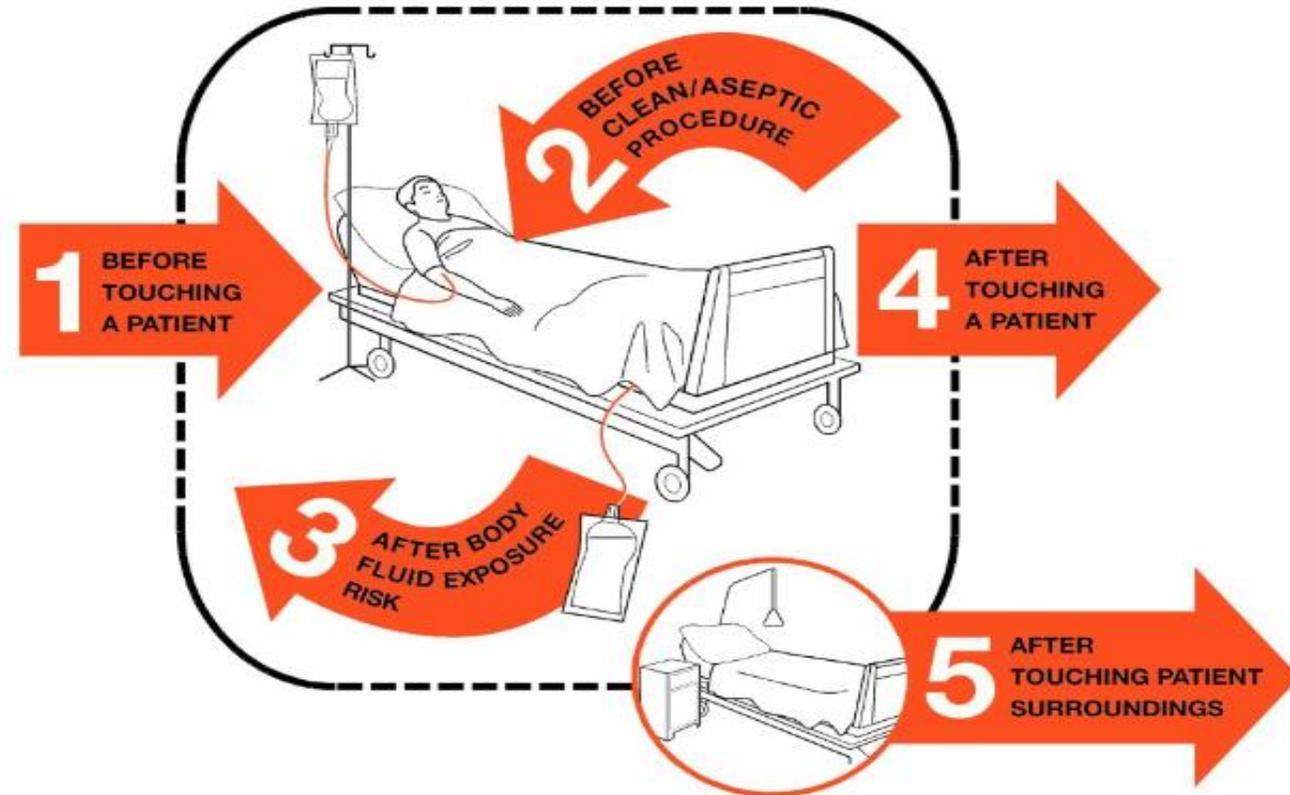
Occupational
Health

Your 5 Moments for Hand Hygiene



Foam In Foam Out
Clean Hands Save Lives

15-20 seconds



(World Health Organization, Save lives, clean your hands)

MANDATORY HOSPITAL ACQUIRED INFECTION (HAI) REPORTING FOR NHSN

- C. diff
- MRSA bacteremia
- Catheter associated urinary tract infection (CAUTI)
- Central line associated blood stream infections (CLABSI)
- Surgical site infections (SSI)



MULTIDRUG-RESISTANT ORGANISMS (MDRO)

How to prevent spread of MDROs

Follow

Follow Standard Precautions during all patient encounters

Implement

Implement Appropriate Precautions

Disinfect

Hands
Equipment

CAUTI

CATHETER ASSOCIATED URINARY TRACT INFECTION

CAUTI - CDC and NHSN definition: CAUTI is a surveillance definition defined as a symptomatic UTI where an indwelling urinary catheter was in place for more than two consecutive days in an inpatient

Patient must meet 1, 2, and 3 below:

1. Patient had an indwelling urinary catheter that had been in place for more than 2 consecutive days in an inpatient location on the date of event AND was either:
 - Present for any portion of the calendar day on the date of event, **OR**
 - Removed the day before the date of event
2. Patient has at least one of the following signs or symptoms:
 - fever ($>38.0^{\circ}\text{C}$)
 - suprapubic tenderness
 - costovertebral angle pain or tenderness
 - urinary urgency
 - urinary frequency
 - dysuria
3. Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of $\geq 100,000$ CFU/ml.

HELP PREVENT CAUTI'S!!!

- Enter orders for **ALL** indwelling foley catheters
- Only insert for appropriate Indication
- Utilize External Devices when possible
- Utilize nurse Driven protocol
- Duration (remove as soon as no longer medically indicated)



CLABSI

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTION

CLABSI - CDC and NHSN definition: CLABSI is a surveillance definition defined as the recovery of a pathogen from a blood culture in a patient who had a central line present for a minimum of 2 days on the date of event or the day before.

a single blood culture for an organism not commonly present on the skin
(common commensal)

OR

two or more blood cultures for organism commonly present on the skin.

The infection cannot be related to any other infection the patient might have

AND

must not have been present or incubating when the patient was admitted to the facility.

HELP PREVENT CLABSI!!!

Follow proper insertion techniques

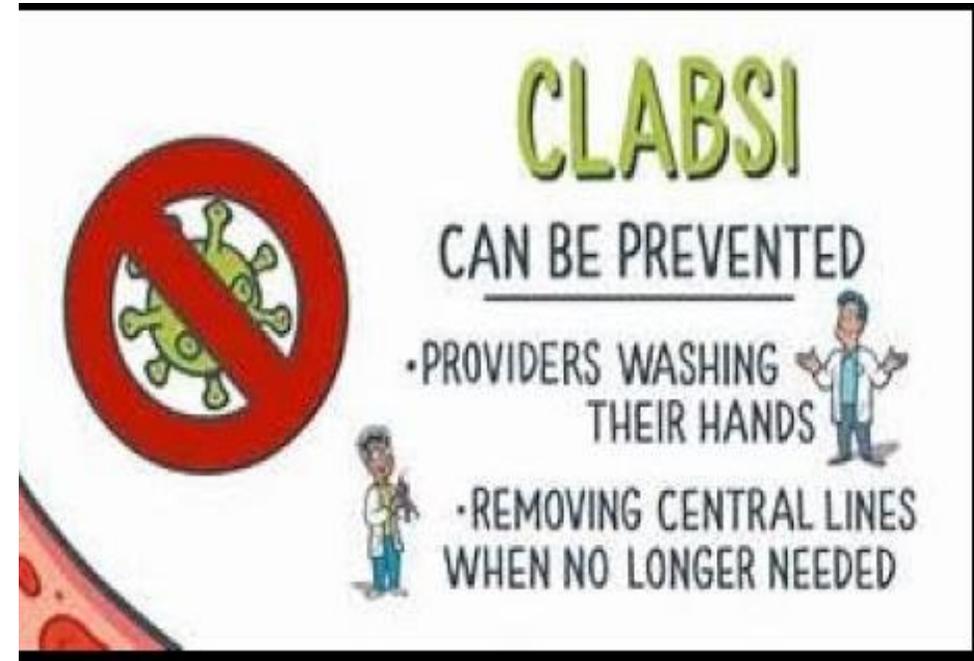
- Perform hand hygiene before insertion or manipulation
- Adhere to aseptic technique

Choose best insertion site based on individual patient characteristics.

- Avoid femoral sites
- SC is preferred site
- Use ultrasound guidance for insertion

Maintenance/Duration

- Promptly remove lines when no longer medically necessary



SSI

SURGICAL SITE INFECTION

Superficial incisional Surgical Site Infection (SSI): Date of event occurs within 30 days following the NHSN operative procedure **AND** involves only skin and subcutaneous tissue of the incision **AND** patient has at least one of the following:

- a. purulent drainage from the superficial incision.
- b. organism(s) identified from an aseptically-obtained specimen from the superficial incision or subcutaneous tissue by a culture or nonculture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment
- c. a superficial incision that is deliberately opened by a surgeon, physician or physician designee and culture or non-culture-based testing of the superficial incision or subcutaneous tissue is not performed **AND** patient has at least one of the following signs or symptoms: localized pain or tenderness; localized swelling; erythema; or heat.
- d. diagnosis of a superficial incisional SSI by a physician or physician designee.

Deep incisional SSI: Date of event occurs within 30 or 90 days following the NHSN operative procedure **AND** involves deep soft tissues of the incision (for example, fascial and muscle layers) **AND** patient has at least one of the following:

- a. purulent drainage from the deep incision.
- b. a deep incision that is deliberately opened or aspirated by a surgeon, physician or physician designee or spontaneously dehisces **AND** organism(s) identified from the deep soft tissues of the incision by a culture or non-culture-based testing or culture-based testing is not performed **AND** patient has at least one of the following signs or symptoms: fever ($>38^{\circ}\text{C}$); localized pain or tenderness.
- c. an abscess or other evidence of infection involving the deep incision detected on gross anatomical exam, histopathologic exam, or imaging test.

Organ/Space SSI: Date of event occurs within 30 or 90 days following the NHSN operative procedure **AND** involves any part of the body deeper than the fascial/muscle layers that is opened or manipulated during the operative procedure **AND** patient has at least one of the following:

- a. purulent drainage from a drain placed into the organ/space (for example, suction drainage system, open drain, T-tube drain, CT guided drainage).
- b. organism(s) identified from fluid or tissue in the organ/space by a culture or non-culture based microbiologic testing method
- c. an abscess or other evidence of infection involving the organ/space detected on gross anatomical exam or histopathologic exam, or imaging test evidence definitive or equivocal for infection.

SSI PREVENTION

- **Preoperative Measures:**
- **Intraoperative Measures:**
- **Postoperative Measures:**



SURGICAL SITE INFECTIONS PRESENT AT TIME OF SURGERY (PATOS)

Examples that indicate evidence of infection at time of surgery (PATOS)

- Abscess
- Infection
- Purulence/pus
- Phlegmon or “feculent peritonitis”

****Must be documented in the
narrative portion of the operative
report by the surgeon****

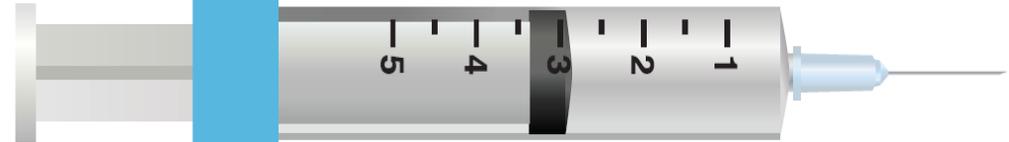


INJECTION SAFETY

To Prevent Transmission of Infections in Healthcare



**ONE NEEDLE,
ONE SYRINGE,
ONLY ONE TIME.**



Safe Injection Practices Coalition

www.ONEandONLYcampaign.org

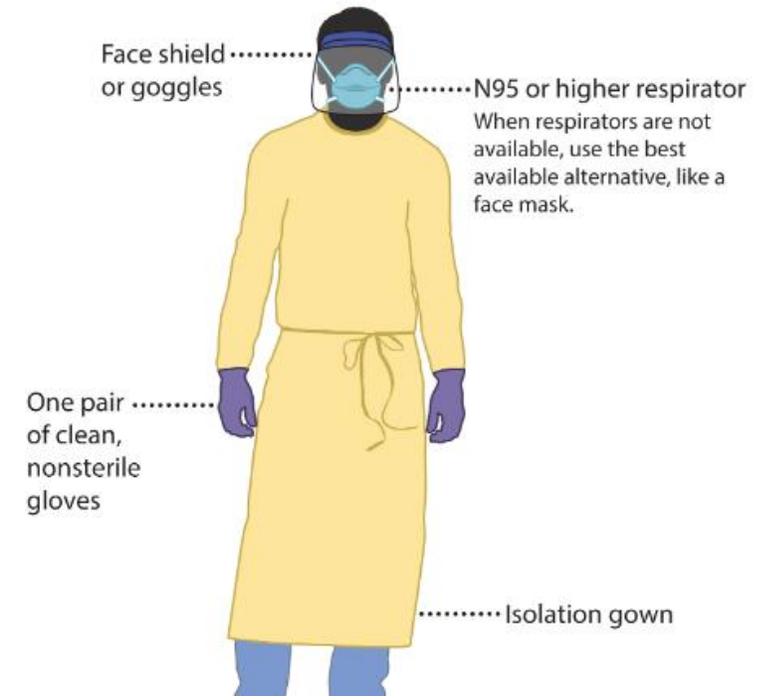
Injection Safety is Every Provider's Responsibility

THINK

SAFETY FIRST

WEAR PERSONAL PROTECTIVE EQUIPMENT

SEATTLE | www.seattle.gov/health | 866-737-1300 #WIS025414



FOLLOW PROPER ISOLATION PRECAUTIONS & WEAR APPROPRIATE PPE

STANDARD PRECAUTIONS

Standard Precautions are infection prevention practices used to avoid the transmission of infectious agents.

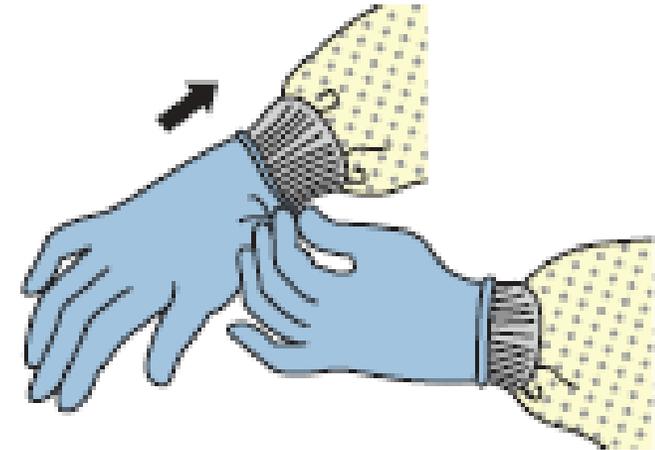
Used with **all patients** regardless of known or suspected infection status.

Assume **all patients** or body fluids may be infectious

Wear gloves when anticipated contact with patient's blood or body fluids, mucus membranes, non-intact skin, or insertion point of a patient's invasive or indwelling devices (central lines, urinary foley catheters, ventilators)

ALWAYS perform hand hygiene before and after all patient encounters.

GLOVE USE IS NOT A SUBSTITUTE FOR HAND HYGIENE!



Contact Precautions:

In addition to Standard Precautions, use Contact Precautions in the care of patients known or suspected to have an illness easily transmitted by direct patient contact or by indirect contact with items in the patient's environment.



Gloves

- Wear gloves when touching the patient and the patient's immediate environment or belongings
- Remove gloves promptly after use and discard before touching non-contaminated items or environmental surfaces, and before providing care to another patient
- Wash hands immediately after removing gloves

Gowns

- Wear a fluid resistant, non-sterile gown if contact with the patient or their environment is anticipated
- Do not wear the same gown for the care of more than one patient



Examples Contact Isolation patients:

- MDRO's (MRSA, VRE, ESBL, CRE)
- Draining wounds
- Scabies, Lice, Bed Bugs

Contact Precautions

Hand Hygiene		Alcohol or Soap & Water
	Gown	To Enter Room
Gloves		To Enter Room
Large Reusable items/Clean with Germicidal		All
Thermometer		Dedicated or Disposable
	B/P Cuff	Single Patient Use / Disposable
Special Transport		Patient in Clean Linens ³

Special Enteric: (Indirect transmission)

Use Special Enteric Precautions in the care of patients known or suspected to have an illness easily transmitted by direct patient contact or by indirect contact with items in the patient's environment for infections that are not commonly killed by routine disinfectants

Gloves

- Wear gloves when touching the patient and the patient's immediate environment or belongings
- Remove gloves promptly after use and discard before touching non-contaminated items or environmental surfaces,
- Wash hands immediately after removing gloves

Gowns

- Wear a fluid resistant, non-sterile gown if contact with the patient or their environment is anticipated
- Do not wear the same gown for the care of more than one patient
- Disinfect all equipment with **bleach**
- Wash hands with soap and water



Examples of Special Isolation Patients:

- Clostridium difficile (C-diff)
- Norovirus
- Acute Diarrhea



Special Enteric

	Hand Hygiene		Soap & Water Only
	Door Closed		Yes
	Gown		To Enter Room
	Gloves		To Enter Room
	Large Reusable items/clean with germicidal		Use Dispatch to Clean
	Thermometer		Dedicated or Disposable
	B/P Cuff		Single Patient Use / Disposable
	Special Transport		Patient in clean linens usually a two person transport ³

Droplet Precautions: Droplet Precautions are required to protect against droplet transmission of infectious agents. Droplets can be generated from a person during coughing, sneezing, talking or during the performance of certain procedures such as suctioning or bronchoscopy.

Droplets generally travel no more than 3 feet from the patient. These droplets can be deposited on the host's nasal mucosa, conjunctivae or mouth.

Mask:

- Wear a facemask, such as a procedure or surgical mask, for close contact with the patient; the facemask should be donned upon entering the exam room
- Wear eye protection



Examples of Droplet isolation patients:

- Influenza (Flu A/Flu B)
- Bacterial Meningitis
- Strep Throat
- Pertussis/RSV



Droplet Precautions

Covers Contact when in combination

Hand Hygiene		Alcohol or Soap & Water
Mask/Eye Protection		Within 3 feet of patient
Gown		To Enter Room
Gloves		To Enter Room
Large Reusable items/Clean with Germicidal		All
Thermometer		Dedicated or Disposable
B/P Cuff		Single Patient Use / Disposable
Special Transport		Patient in face mask and Clean Linens ³

Airborne Transmission: Airborne precautions are required to protect against airborne transmission of infectious agents. Aerosols usually enter through the respiratory tract. These aerosols have the ability to remain suspended in the air for long periods of time and travel long distances.

▪ **Wear an N95 Respirator**

Prior fit-testing that must be repeated annually and fit-check / seal-check prior to each use.

OR

Powered Air-Purifying Respirator (PAPR)

The respirator should be donned prior to room entry and removed after exiting room



Examples of Airborne / Respiratory Isolation patients:

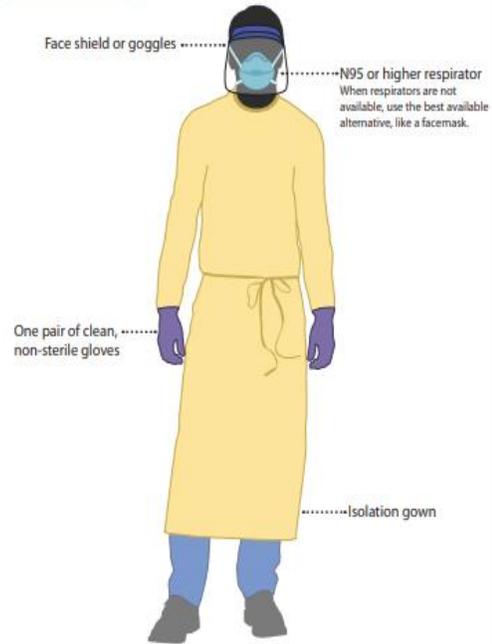
- Mycobacterium Tuberculosis (TB)
- Shingles/Chickenpox
- Avian Flu
- Measles
- Small pox

Airborne/Respiratory Precautions		
	Hand Hygiene	Alcohol or Soap & Water
	Door Closed 	Yes
	Mask/Eye Protection	N-95 to Enter Room
	Gloves 	Yes
	Large Reusable items/clean with germicidal	All
	B/P Cuff	Single Patient Use / Disposable
	Special Transport 	Patient in face mask

Airborne & Contact

Precautions: Airborne precautions are required to protect against airborne transmission of infectious agents. Aerosols usually enter through the respiratory tract. These aerosols have the ability to remain suspended in the air for long periods of time and travel long distances. These infection can also be transmitted by by direct patient contact or by indirect contact with items in the patient's environment.

Preferred PPE – Use N95 or Higher Respirator



- Wear an [N95 Respirator](#)
Prior fit-testing that must be repeated annually and fit-check / seal-check prior to each use.

OR

[Powered Air-Purifying Respirator \(PAPR\)](#)

The respirator should be donned prior to room entry and removed after exiting room

Examples of Enhanced Contact & Airborne / Respiratory

Isolation patients:

- COVID – 19

ENHANCED CONTACT & AIRBORNE/RESPIRATORY PRECAUTIONS

 Hand Hygiene	Alcohol or Soap & Water
 Door Closed	Yes
 Mask/Eye Protection	Eye protection shield or goggles N-95 or higher respirator
 Gloves	Yes
 Gown	Yes
 Large Reusable items/clean with germicide	All
 Thermometer/Stethoscope/ Blood Pressure Cuff	Dedicated or Disposable/Single Patient Use
 Special Transport	Patient in face mask and in clean linens/ Isolation drape

*Shoe covers and bouffant are not required but available in the PPE cart.

Reverse Isolation:

Use Special Reverse Isolation Precautions in the care of patients. We are the danger to these patients. Patients with severely weakened immune system.

Gloves

- Wash hands before donning gloves
- Wear gloves when touching the patient and the patient's immediate environment or belongings
- Remove gloves promptly after use and discard before touching non-contaminated items or environmental surfaces, and before providing care to another patient
- Wash hands immediately after removing gloves

Mask

- Wear a face mask when coming in contact with patient or their environment to protect the patient.



Examples of Special Isolation Patients:

- Chemotherapy
- HIV
- Low WBC's
- Severely immunocompromised patients

Reverse Isolation

 Hand Hygiene	Soap and Water or Alcohol Based Scrub
Door Closed 	Yes
 Mask and Gloves	To Enter Room
Gown 	Not Required
Large Reusable items/Clean with Germicidal	All
Thermometer/ BP cuff 	Dedicated or Disposable
 Special Transport	Patient in Face Mask and Clean Linen Usually a two person transport ³
Fresh/Dried Flowers/Plants, Fresh Fruit/Vegetables or any uncooked meals	May not be brought into patients room
If you have had fever, vomiting, diarrhea, cough, rash, sore throat or have been sick within the last 24 hours	Please do not visit patient, see nurse

IP COMMITTEES

☐ Infection Prevention Committee

- Quarterly (2nd Wed. of the month @ 12pm February, May, August, & November)

☐ CAUTI/CLABSI Committee

- Meets quarterly & as needed

☐ SSI Committee

- Meets monthly & as needed

☐ Hand Hygiene Committee

- Quarterly & as needed

THANK YOU!

IP Contact Information

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REFERENCES



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CDC. Isolation Precautions. <https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>



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