

JOIN
THE LEADING TEAM.



INFECTION PREVENTION & CONTROL

AULTMAN

Welcome!!

Infection Prevention will cover the following topics:

- Chain of Infection
- Hand Hygiene
- Standard and Transmission-based Precautions
- Personal Protective Equipment
- Specific Pathogens
- Special Prevention Efforts

CDC Healthcare Associated Infections Facts and Data:

- Healthcare-acquired infections (HAIs) affect an estimated **1.7 million** patients in US hospitals annually
- On any given day, about one in 31 hospitalized patients has **at least one HAI**
- This results in more than **98,000 deaths annually** (1 in 17 patients)
- The annual cost of HAIs in the US is estimated between **\$28 - \$45 billion**
- Hands of healthcare workers remain the number one cause of the spread of HAIs





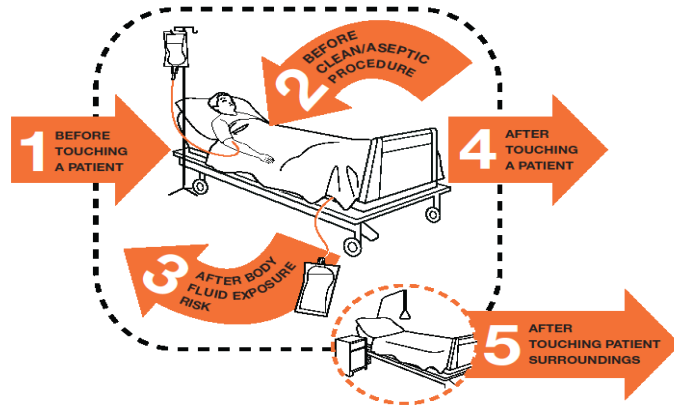
FIND YOUR
PASSION HERE.

Healthcare-Associated Infection Prevention

- **Hand hygiene is the single most important thing you can do to prevent the spread of infection to your patients, coworkers, and yourself.**

W.H.O. 5 Moments for Hand Hygiene

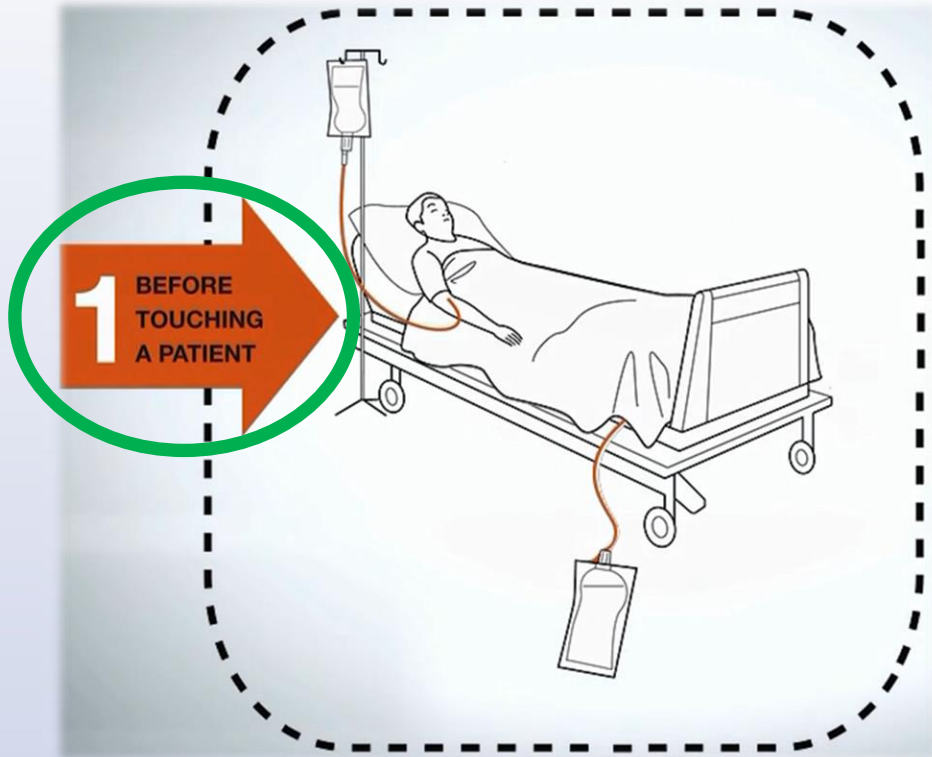
Your 5 Moments for Hand Hygiene



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

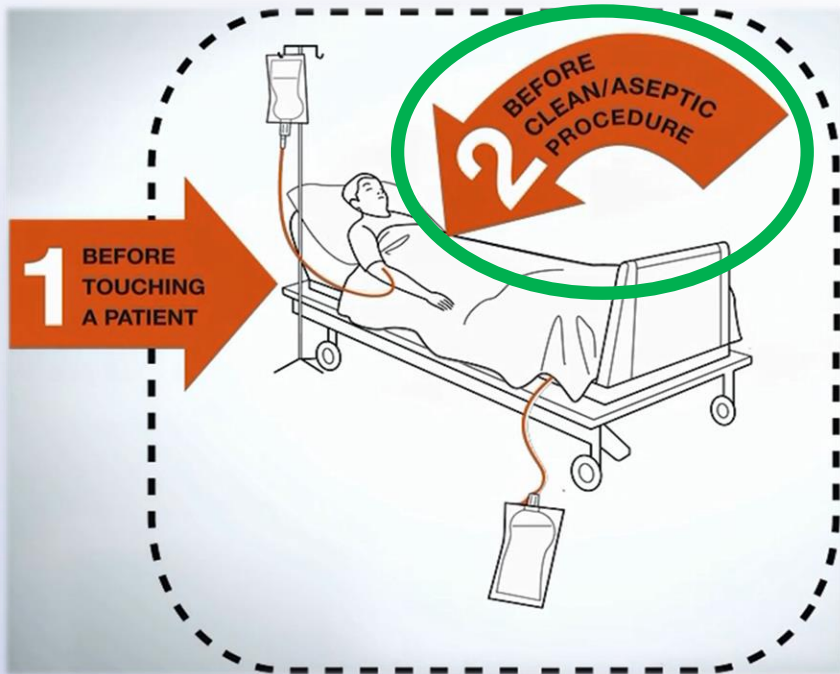
1	BEFORE TOUCHING A PATIENT
2	BEFORE CLEAN/ASEPTIC PROCEDURE
3	AFTER BODY FLUID EXPOSURE RISK
4	AFTER TOUCHING A PATIENT
5	AFTER TOUCHING PATIENT SURROUNDINGS

5 essential times hand hygiene is needed at the point of care.



1. Cleanse before touching a patient

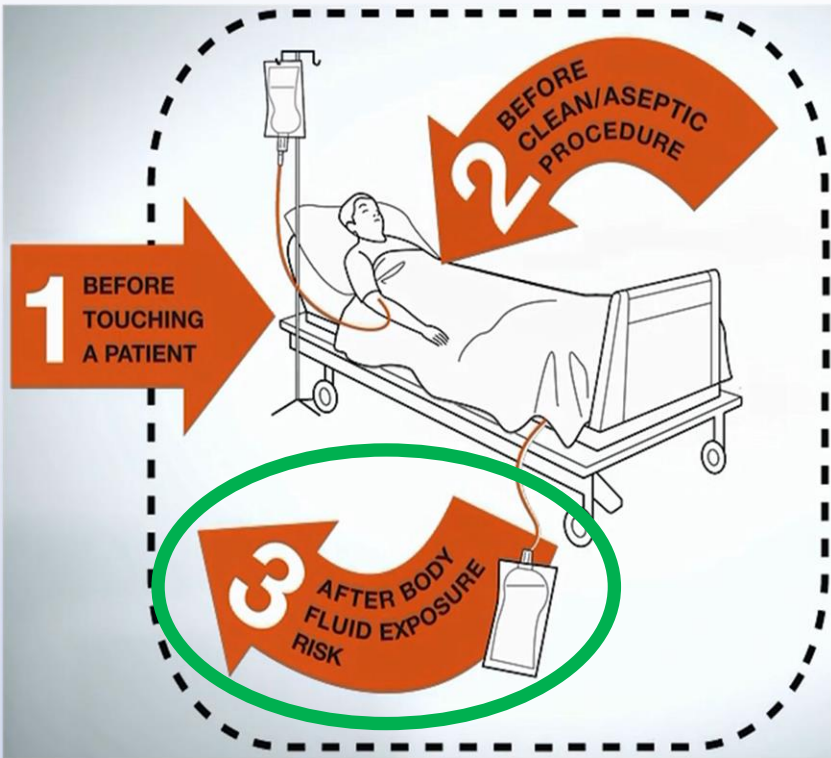
- **Minimum: Upon entry to the patient room or cubicle**
- **Examples - Before or Prior to:**
 - Shaking hands
 - Checking a name band
 - Applying an O2 mask
 - Giving medication
 - Taking vital signs or patient examination
 - Assisting the patient to move
 - **Before donning PPE**



2. Cleanse before a clean or aseptic procedure

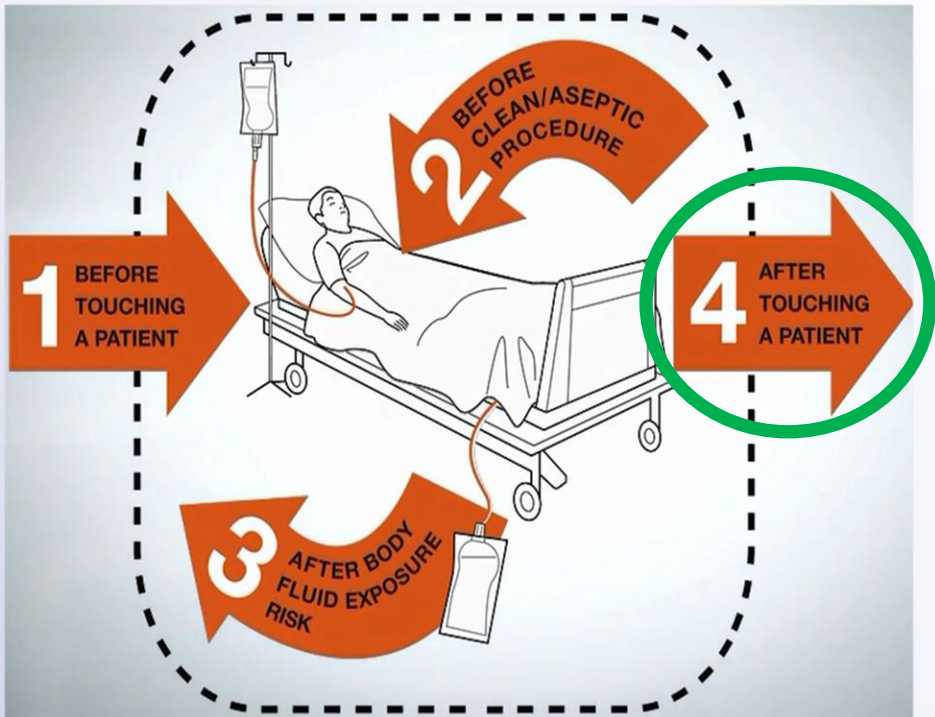
- Examples - Before or prior to:

- Handling or preparing food, medication, sterile items
- Brushing the patient's teeth
- Insertion of a medical device
 - IV line peripheral or central
 - Urinary catheter
 - Dressing a wound or wound care
- Providing catheter care
- Between two procedures on the same patient



3. Cleanse after body fluid exposure risk

- **Always - after removing gloves and PPE**
- **Examples - After:**
 - Contact with open skin or a mucous membrane
 - Cleaning a bathroom
 - Repairing a sink drain or a toilet
 - Giving an injection
 - Inserting or removing an invasive medical device
 - Handling a specimen, body fluids or moist body substances
 - Draining a urinary catheter bag or drainage collection device



4. Cleanse after touching or having contact with the patient

- **Always – after removing gloves**
- **Examples - After:**
 - Shaking hands
 - Assisting the patient with care activities: to move, to eat, to bathe, to dress, etc.
 - Delivering non-invasive care or treatment: applying O₂, taking vital signs, giving a massage, palpating pulses, taking an EKG



5. Cleanse after touching patient surroundings

- **Minimum: Upon exiting the patient room.**
- **Examples – After:**
 - Changing bed linen (*with patient out of bed*)
 - Clearing a bedside table
 - Clearing a monitor alarm
 - Contact with equipment, surfaces, inanimate objects, curtains, bedrails
 - Cleaning the patient's room

In addition to the 5 Moments. . .

**Cleanse your hands upon entering and exiting the
patient room or cubicle**

... Even if you haven't touched the patient or the environment!



Gloves are **NOT** Hand Hygiene

- Perform hand hygiene prior to glove use
- Gloves are not guaranteed to be 100% protective – they may not be completely free of flaws
- Hands **MUST** be cleansed after gloves are removed
- Gloves are SINGLE USE ONLY:
 - Do not cleanse gloves with sanitizer
 - Do not use the same gloves in the care of more than one patient

Examples of Other Moments to Cleanse - Outside the Patient Room

1. **Before** handling or preparing food or medications or when stocking clean supplies
2. **Before** applying any PPE and **after** removing any PPE
3. **After** contact with items and surfaces in a “dirty” area such as a Soiled Utility Room
4. **After** bathroom use or toileting
5. **After** coughing, sneezing, blowing nose

Note: Offer the patient a means to cleanse their hands.

Soap & Water vs. Alcohol-based Hand Sanitizer

- **When to use Soap & Water:**
 - Hands are visibly, physically soiled, or feel soiled
 - Working with C. difficile or Norovirus
- **When to use Alcohol-based Hand Sanitizer:**
 - Hands are not visibly dirty or feel soiled but need germ removal
- **How to lather properly?**
 - Must be at least 20 seconds duration **AND**
 - Must cover all surfaces of hands and wrists



ACCOUNTABILITY

- To promote **High Reliability**, prompt other healthcare workers for missed hand hygiene opportunities by saying: **“Give Me Five!”**
- There are **FIVE** moments of hand hygiene
- Please **HELP** our team maintain a safe environment for our patients



Artificial Nails & Nail Applications

- All colleagues, care or service providers, volunteers and contract staff **having direct patient contact, and/or those who contact the patient's environment**, to include food service staff and those who prepare, package, or handle patient care products, the following applies:
 - Fingernails are clean, presentable, and well-groomed
 - Nail polish that is **not** chipped, cracked, or lifting **is permitted**
 - Artificial nails, tip extenders, acrylic gel nails, charms, and decals **are NOT permitted**
 - **Must comply with any division or department policy related to fingernails**
(Example: Surgery, LDRP, etc.)



Standard

(formerly Universal)

- Use of barriers and safe work practices to prevent contact with body fluids/substances
 - HIV, HBV, HCV
 - Personal Protective Equipment
- Use with all persons
- No Signage

Transmission-Driven

- Always use in addition to Standard Precautions
- Based on organism transmission
- Signage
- Isolation for colonization of some organisms

Reminders:

- Know where to locate PPE
- Cover mouth & nose - cover eyes too
- No food or drink in patient care or clinical areas
- No open shoes or sandals



Guidelines & General Information

- Soiled Linen or non-disposable gowns:
 - Place in blue plastic impervious bag
- Infectious Material:
 - Place in **red bag** then place in **red Biohazard Barrel**
- Contaminated Needles/Sharps:
 - Place in sharps container (Close and change when at full line)
- Lab Specimen:
 - Place in clear plastic bag with biohazard label
- Blood spills:
 - Clean with 1:10 bleach & H₂O solution (Biohazard Clean-up Kit)



Transmission-Based Isolation Precautions

Airborne



Visitors **MUST** see the nurse prior to entering this room. Visitation may be restricted. If visitation is permitted, instruction for use and removal of personal protective equipment will be provided to visitors.

Airborne Precautions to Prevent the Spread of Infection

- 1 Perform hand hygiene before putting on personal protective equipment.
- 2 The door **MUST** remain closed to maintain appropriate negative pressure.
- 3 A gown is **REQUIRED** to enter this room.
- 4 A NIOSH-approved N95 filtering facepiece respirator mask or higher level of respiratory protection such as a powered air-purifying respirator (PAPR) is **REQUIRED** to enter room.
- 5 Eye protection, such as goggles or face shield, is **REQUIRED** to enter this room. Eyeglasses are **NOT** personal protective equipment.
- 6 Gloves are **REQUIRED** to enter this room.
- 7 Remove all personal protective equipment at the doorway prior to exiting room.
- 8 Perform hand hygiene upon exit of patient room.



Droplet



Visitors **MUST** see the nurse prior to entering this room. Visitation may be restricted. If visitation is permitted, instruction for use and removal of personal protective equipment will be provided to visitors.

Droplet Precautions to Prevent the Spread of Infection

- 1 Perform hand hygiene before putting on personal protective equipment.
- 2 A gown is **REQUIRED** to enter this room.
- 3 A face mask is **REQUIRED** to enter this room.
- 4 Eye protection, such as goggles or face shield, is **REQUIRED** to enter this room. Eyeglasses are **NOT** personal protective equipment.
- 5 Gloves are **REQUIRED** to enter this room.
- 6 Remove all personal protective equipment at the doorway prior to exiting room.
- 7 Perform hand hygiene upon exit of patient room.



Contact



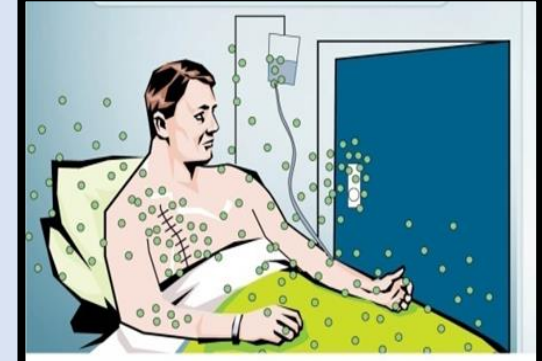
Visitors **MUST** see the nurse prior to entering this room. Visitation may be restricted. If visitation is permitted, instruction for use and removal of personal protective equipment will be provided to visitors.

Contact Precautions to Prevent the Spread of Infection

- 1 Perform hand hygiene before putting on personal protective equipment.
- 2 A gown is **REQUIRED** to enter this room.
- 3 A face mask and eye protection, such as goggles or face shield, are **NOT** required, but may be needed for Standard Precautions. Reminder: Eyeglasses are **NOT** personal protective equipment.
- 4 Gloves are **REQUIRED** to enter this room.
- 5 Remove all personal protective equipment at the doorway prior to exiting room.
- 6 Perform hand hygiene upon exit of patient room.



Special Contact



Visitors **MUST** see the nurse prior to entering this room. Visitation may be restricted. If visitation is permitted, instruction for use and removal of personal protective equipment will be provided to visitors.

Special Contact Precautions to Prevent the Spread of Infection

- 1 Perform hand hygiene before putting on personal protective equipment.
- 2 A gown is **REQUIRED** to enter this room.
- 3 A face mask and eye protection, such as goggles or face shield, are **NOT** required, but may be needed for Standard Precautions. Reminder: Eyeglasses are **NOT** personal protective equipment.
- 4 Gloves are **REQUIRED** to enter this room.
- 5 Remove all personal protective equipment at the doorway prior to exiting room.
- 6 Perform hand hygiene with SOAP AND WATER upon exit of patient room.



Soap & Water
Hand Wash Only

Mask or Respirator with Eye Protection

- An important aspect of isolation and Infection Prevention is **Personal Protective Equipment** (PPE).
- PPE are barriers used to limit the spread of contamination for both Standard and Transmission-based Precautions.
- Use PPE when it is anticipated that contact with blood or other potentially infectious materials, mucous membranes, non-intact skin, potentially contaminated skin or contaminated equipment could occur.
- Proper application and removal is essential for staff and patient safety.
- The correct application and proper removal techniques prevent exposures.



Gown



Gloves

The above and following information has been taken from the CDC website. <https://www.cdc.gov/hai/prevent/ppe.html>

CDC Sequence for Putting On Personal Protective Equipment

REMINDER:
Apply ALL PPE
prior to room entry.

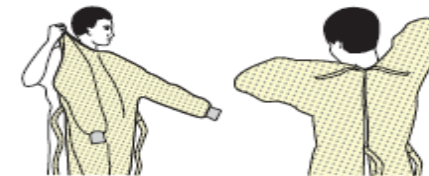
Perform hand hygiene prior to
application of PPE.

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

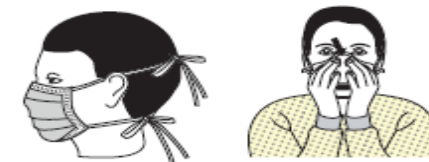
1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



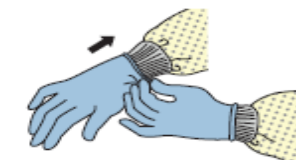
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene





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CDC Sequence for Removing Personal Protective Equipment

REMINDER:

Remove all PPE within anteroom
(when applicable) or at doorway
prior to exiting patient room.

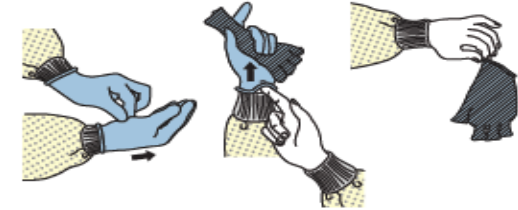
Always perform hand hygiene after
PPE removal.

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

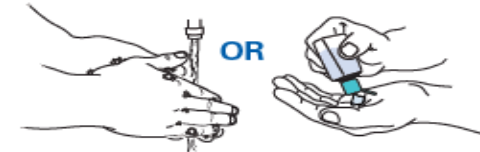


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



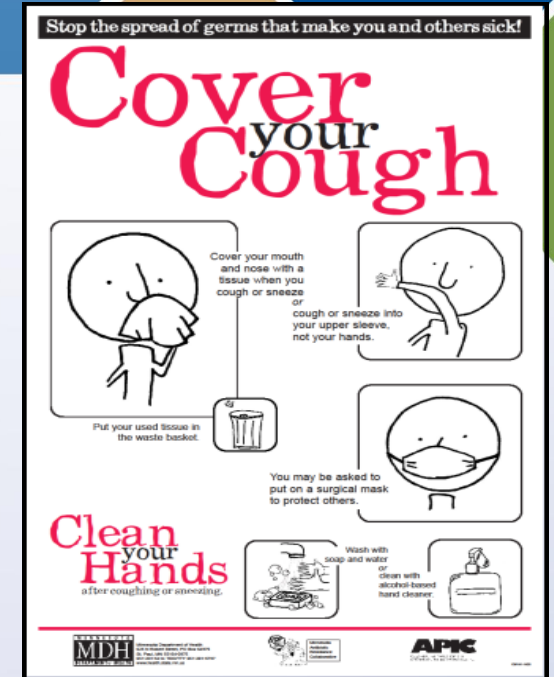
PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS
BECOME CONTAMINATED AND IMMEDIATELY AFTER
REMOVING ALL PPE



PERSONAL PROTECTIVE EQUIPMENT

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- Educate Patients and Families about Infection Prevention and Control
 - When needed, provide patient and/or visitor with a mask and instruct in use
 - Clean equipment after each use
 - Follow **Respiratory Etiquette**
- REMINDER:
- ✓ Wear appropriate hospital attire
 - ✓ Utilize appropriate PPE
 - ✓ Follow Hand Hygiene Policy



- **MDROs** are bacteria that are resistant to one or more classes of antibiotics. These organisms:
 - Cause infections that can't be treated by commonly used antibiotics.
 - Spread from patient to patient, from patient to healthcare worker, and from medical facility to medical facility, and even healthcare worker to patient.
 - Cause approximately 2.8 million illnesses and at least 35,000 deaths each year in the U.S.
 - These are sometimes referred to as **"Superbugs."**
- **Contact Precautions are used to prevent the spread of the organism.**
- Aultman systems alert staff of patients who either test positive for an MDRO during a current admission, or who re-enter the hospital system with a history of an MDRO.

MRSA

ESBL

C. diff

VRE

Resistant
Acinetobacter

CRE



MULTIDRUG-RESISTANT ORGANISMS

- **Influenza (Flu)** is a contagious **respiratory** illness caused by influenza viruses.
- Illness may be mild to severe. Symptoms are:
 - Fever* or feeling feverish/chills (**Not everyone with flu will have a fever*)
 - Cough
 - Sore throat
 - Runny or stuffy nose
 - Muscle or body aches
 - Headaches
 - Fatigue
- Some people may have vomiting and diarrhea, though this is more common in children than adults
- Healthy individuals can spread the virus **1 day before symptoms develop and up to 5 to 7 days after becoming sick.** Those with weakened immune systems may shed the virus longer.



<https://www.cdc.gov/flu>

INFLUENZA FACTS

- CDC estimates during the 2019-2020 influenza season*:
 - **38 million** people became ill from influenza
 - **18 million** people visited a health provider
 - **400,000** influenza related hospitalizations
 - **22,000** deaths related to influenza

*Estimates for this season is preliminary and may change as data are finalized.

the burden of flu **2019-2020**

During the 2019-2020 flu season, CDC estimates flu caused:

38
million
flu illnesses

About the same as the
population of California



400,000
flu hospitalizations

About the same as the
population of Miami, FL



22,000
flu deaths

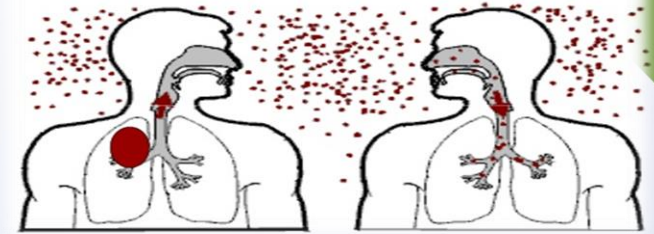
Enough people to fill
Madison Square Garden
in New York City



get vaccinated
www.cdc.gov/flu

- **Mycobacterium tuberculosis (TB)** is a disease caused by germs that are spread from person to person through the air. TB usually affects the lungs, but it can also affect other parts of the body, such as the brain, the kidneys, or the spine.
- Patients may be referred to Aultman to have testing completed and treatment if necessary.
- Early recognition of risk factors or symptoms is the key to prevent exposures and transmission.
- Patients suspected of having or diagnosed with TB are placed in a specially ventilated room and require Airborne Precautions until TB is ruled out.
- Staff who care for TB patients MUST use special masks called N95 particulate respirators or higher-level level respirator. These masks require annual fit testing, training, and education.

Transmission of Tuberculosis



<http://www.cdc.gov/tb>



TUBERCULOSIS

CDC is responding to an outbreak of a respiratory disease caused by a Novel(new) coronavirus that was first detected in China and has now been detected in more than 100 locations

This virus has been named “SARS-CoV-2” and the disease has been names Coronavirus 2019 or COVID-19.

COVID-19