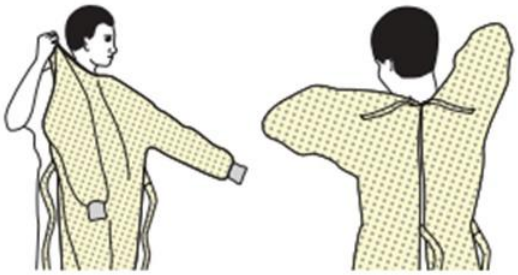
DONNING

PPE

Step 1: Donning a Gown

There are re-usable (pictured here) and disposable gowns. While doffing is different, donning is the same.

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



Step 2: Donning a Mask or Respirator

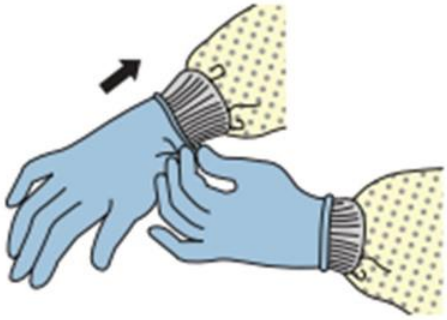
- Secure ties or elastic bands at middle of head and neck
- Some masks have ear loops
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

Step 3: Donning Goggles or Face Shield

- Place over face and eyes and adjust to fit

Step 4: Donning Gloves

- Extend to cover wrist of isolation gown



DOFFING

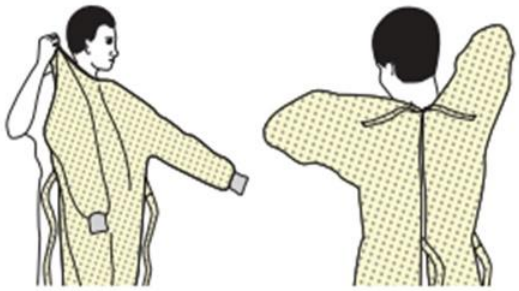
PPE

Step 1: Doffing Re-usable or Disposable Gowns

Click on each one to learn more.

Step 2: Doffing a Re-usable Gown

- 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 into a laundry bin (fabric/laundered gown)



Back

Step 2: Doffing a Disposable Gown

- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands.
- Place the gloves into a waste container. Fold or roll gown into a bundle and discard into a waste container.

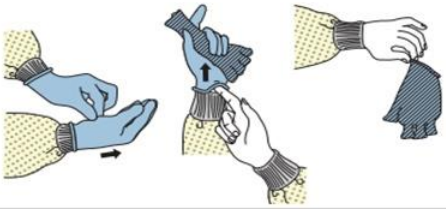
Back

Step 2: Doffing 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.

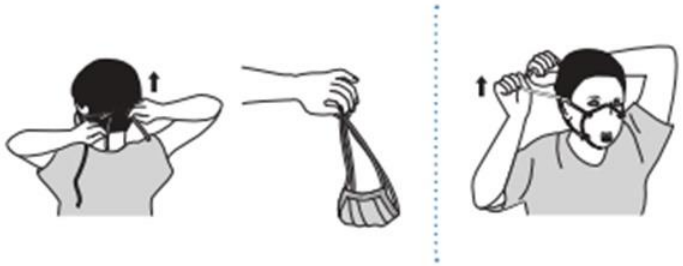
- After leaving patient's room, remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield.
- Some types of eye protection are re-usable (goggles, face shield). If re-usable, decontaminate after removal, otherwise discard in regular trash. Refer to PPE policies/guidelines for re-use instructions.

- 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

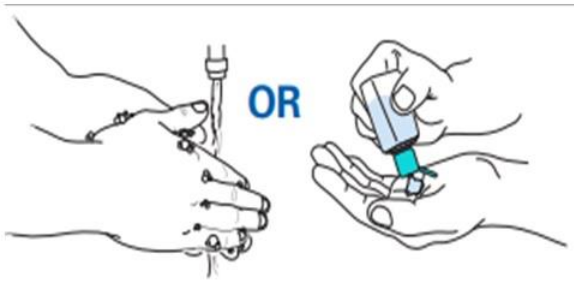


Step 3: Doffing Mask or Respirator

- 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



Step 4: Perform Hand Hygiene



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

Transmission Based Precautions

Isolation types are based on routes of disease transmission:

CONTACT	DROPLET	AIRBORNE	ENTERIC	FULL BARRIER

Determined by the patient's specific disease, cultured pathogens or set of symptoms (CDC isolation guidelines)

Consider:

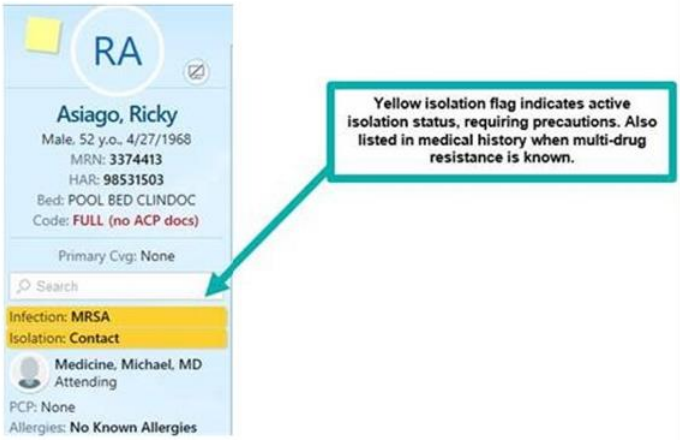
- Travel history
- Continence
- Skin disruptions (rashes, bites)
- Containment (of draining wounds, secretions)
- Catheters (Trach, PEG tube)

Transmission Based Precautions Flag

Providers, RN's, Infection Prevention may order transmission based precaution.

Team members and patients are alerted to the need for Isolation Precautions by:

- Signage on the patient's door. Signs are available on every nursing/care unit.
- Electronic medical record flag or isolation order



Using Transmission Based Precautions

Where to obtain PPE supplies:

North

MGH

Blaze Health

Refer to infection prevention isolation policies and procedures for further precaution and PPE guidelines.

Using Transmission Based Precautions

Where to obtain PPE supplies:

isolation cart @ North

Refer to infection prevention isolation policies and procedures for further precaution and PPE guidelines.

Using Transmission Based Precautions

Where to obtain PPE supplies:

isolation bag @ MGH

Refer to infection prevention isolation policies and procedures for further precaution and PPE guidelines.

Using Transmission Based Precautions

Refer to Clinic location specifics for PPE supply locations. Supplies may be located in centrally located areas such as equipment closets, plastic bins, carts, shelves.

Refer to infection prevention isolation policies and procedures for further precaution and PPE guidelines.

Initiating Transmission Based Precautions

Isolation types are based on routes of disease transmission:

CONTACT	DROPLET	AIRBORNE	ENTERIC	FULL BARRIER

Click here to proceed.

Contact Precautions

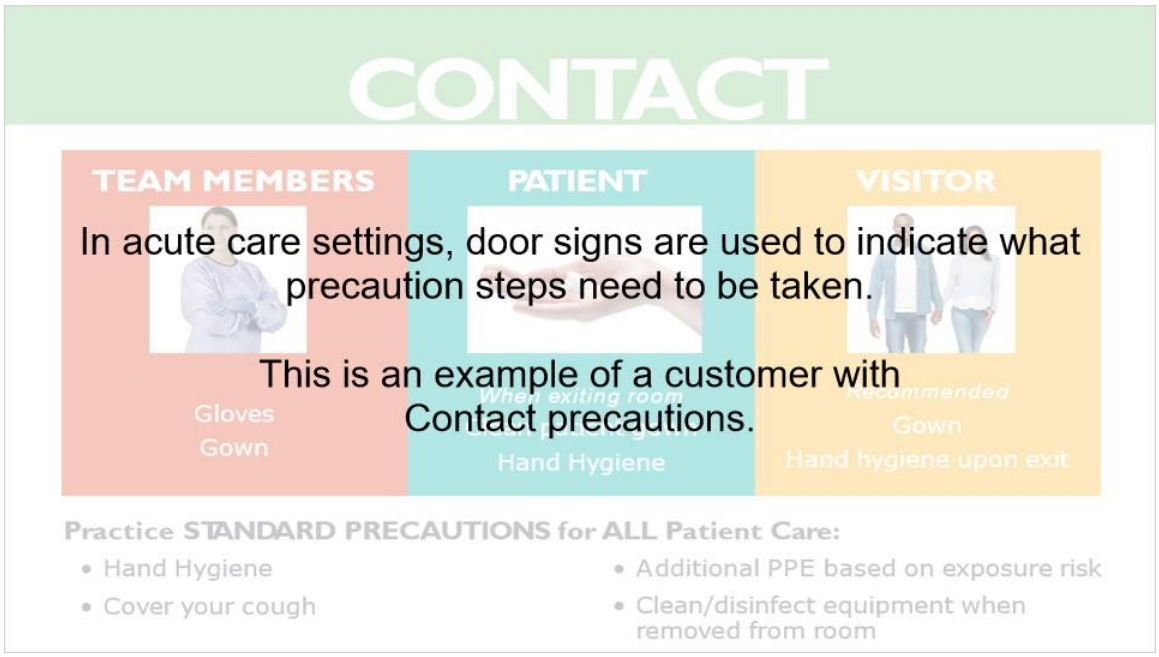
Prevent transmission of pathogens from a patient with known multi-drug resistant organism(s) (MDRO) to other patients being cared for.

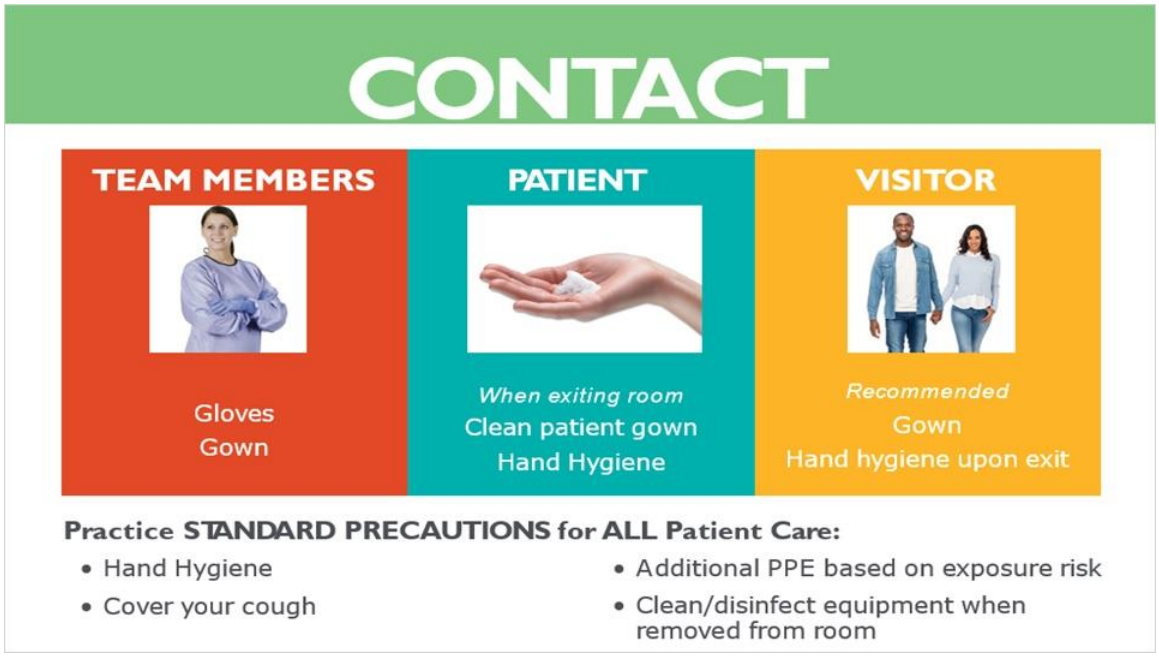
***Carriers* (colonized)**
- Persons who can transmit an infectious disease to others but do not have active signs or symptoms of illness.

***Cases* (infected)**
- Persons who have active signs and symptoms of an infectious illness and could transmit the illness to others.

Common MDRO examples:

- Methicillin-resistant Staph aureus (MRSA)
- Extended-Spectrum Beta Lactamase organism (ESBL)
- Carbapenem-Resistant Pseudomonas (CRPA)
- Vancomycin-Resistant Enterococcus (VRE)


CONTACT
TEAM MEMBERS
PATIENT
VISITOR
In acute care settings, door signs are used to indicate what precaution steps need to be taken.
This is an example of a customer with Contact precautions.
Gloves
Gown
When exiting room
Hand Hygiene
Recommended
Gown
Hand hygiene upon exit
Practice STANDARD PRECAUTIONS for ALL Patient Care:
• Hand Hygiene
• Cover your cough
• Additional PPE based on exposure risk
• Clean/disinfect equipment when removed from room


CONTACT
TEAM MEMBERS
PATIENT
VISITOR
Gloves
Gown
When exiting room
Clean patient gown
Hand Hygiene
Recommended
Gown
Hand hygiene upon exit
Practice STANDARD PRECAUTIONS for ALL Patient Care:
• Hand Hygiene
• Cover your cough
• Additional PPE based on exposure risk
• Clean/disinfect equipment when removed from room

Droplet Precautions

- Door must to be closed when doing Aerosol Generating Procedures (AGP).
- Patient should stay in room when ever possible, but must wear procedure mask when outside room.
- Provide respiratory etiquette supplies (tissues, hand hygiene product).

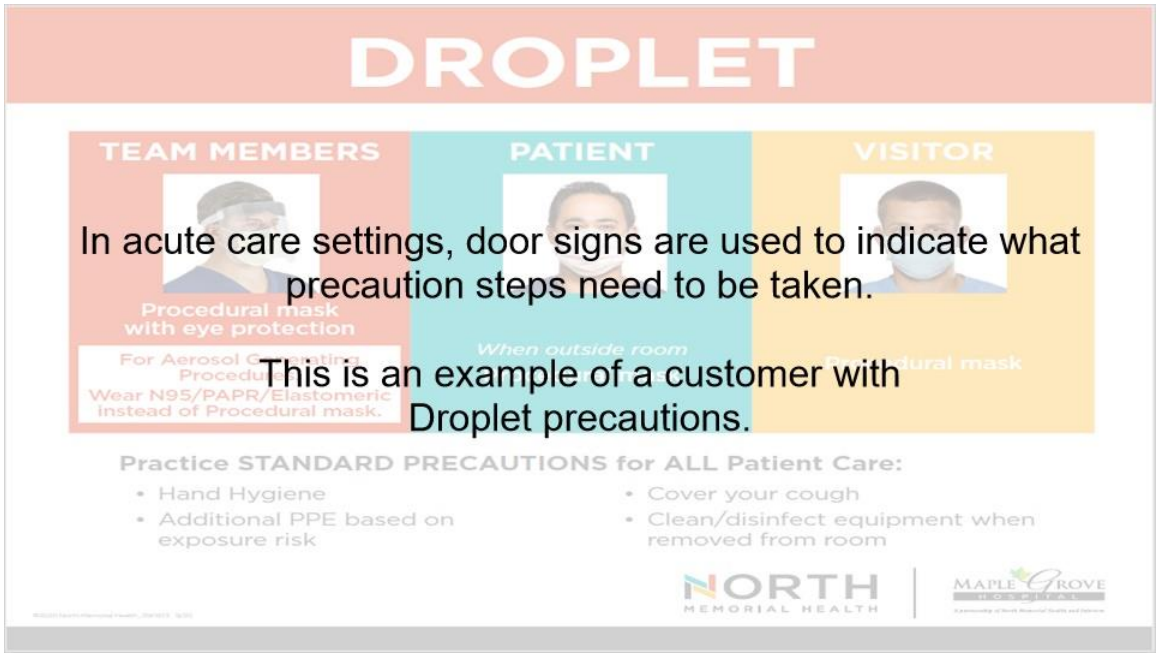
Droplet Precautions

TYPE OF INFECTIOUS PRECAUTION	PERSONAL PROTECTIVE EQUIPMENT	
DROPLET PRECAUTIONS (i.e. influenza, RSV)	**WHAT I WEAR ALL THE TIME WHEN CARING FOR PATIENTS** Universal surgical/procedural mask Universal eye protection	**WHAT I WEAR DURING AN AEROSOL GENERATING PROCEDURE** **Respirator** (N95, elastomeric or PAPR) Universal eye protection

REMINDER:
team members should wear a respirator, instead of a procedure mask when performing an aerosol-generating procedure. ***Click this box to see a list of Aerosol Generating Procedures.***

Droplet Precautions

AEROSOL GENERATING PROCEDURES*	
1)	Endotracheal tube (ETT) intubation, extubation or exchange
2)	CPAP and BiPAP - non-invasive positive pressure ventilation (NIPPV)
3)	Bag mask valve (BVM) ventilation (ambu bag ventilation)
4)	Cardiopulmonary resuscitation (CPR) with chest compressions
5)	Bronchoscopy
6)	Open suctioning of airways
7)	Sputum induction
8)	Nebulizer treatment (use CPAP and BiPAP masks if possible)
9)	Upper endoscopy (including PEG tub placement)
10)	Transesophageal echocardiography (TEE)
11)	High flow oxygen by nasal route or face mask > 6L/min



In acute care settings, door signs are used to indicate what precaution steps need to be taken.

This is an example of a customer with Droplet precautions.

DROPLET

TEAM MEMBERS	PATIENT	VISITOR
		
Procedural mask with eye protection For Aerosol Generating Procedures: Wear N95/PAPR/Elastomeric instead of Procedural mask.	*When outside room* Procedural mask	Procedural mask

Practice STANDARD PRECAUTIONS for ALL Patient Care:

- Hand Hygiene
- Additional PPE based on exposure risk
- Cover your cough
- Clean/disinfect equipment when removed from room

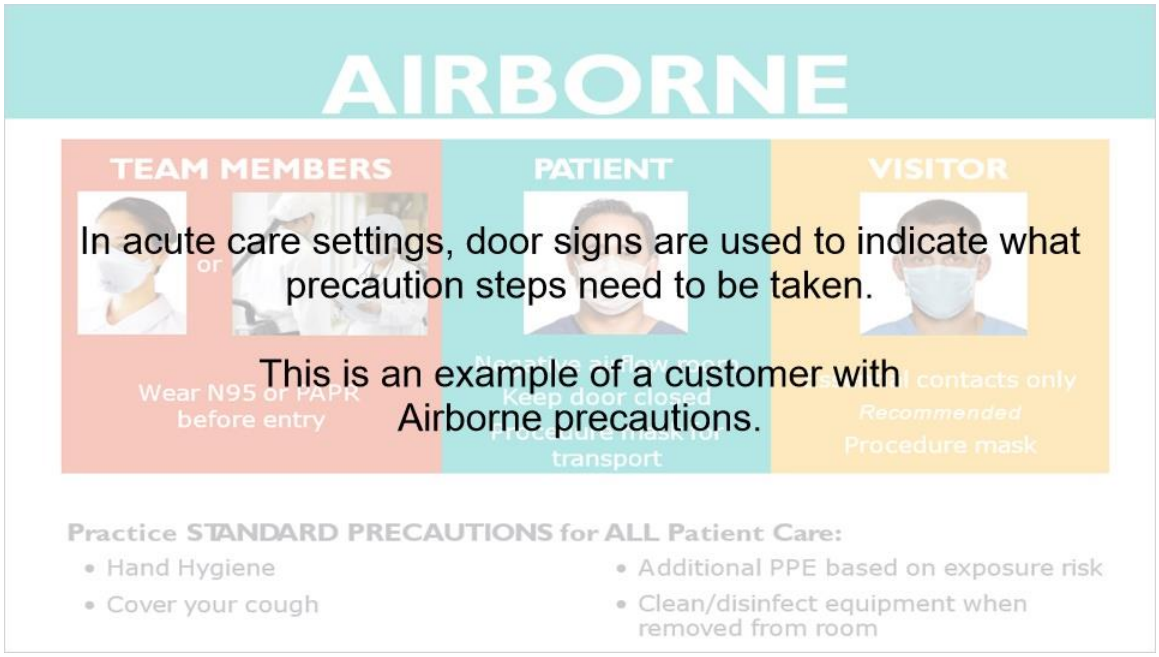
NORTH MEMORIAL HEALTH | MAPLE GROVE HOSPITAL

Droplet Precautions

- Droplets are propelled through the air up to 3-6 feet
- Some disease examples that require Droplet Precautions:
  - Pertussis
  - Influenza
  - RSV

Airborne Precautions

- Airborne organisms can stay suspended in the air for an extended period of time and travel with circulating airflow
- Required for patients suspected or known to have:
  - Laryngeal/pulmonary Tuberculosis
  - Chickenpox
  - Measles
- Can be expelled by coughing, sneezing, talking, breathing, or when performing aerosol generating procedures



In acute care settings, door signs are used to indicate what precaution steps need to be taken.

This is an example of a customer with Airborne precautions.

AIRBORNE

TEAM MEMBERS	PATIENT	VISITOR
 or 		
Wear N95 or PAPR before entry	Negative airflow room Keep door closed Procedure mask for transport	Essential contacts only *Recommended* Procedure mask

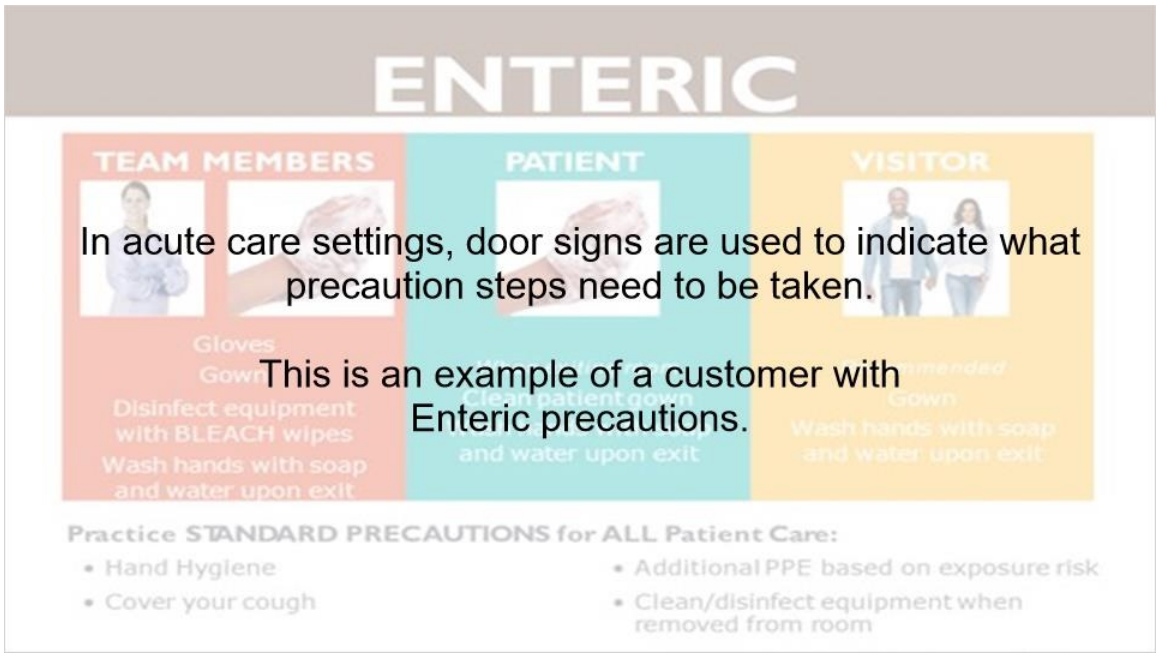
Practice STANDARD PRECAUTIONS for ALL Patient Care:

- Hand Hygiene
- Cover your cough
- Additional PPE based on exposure risk
- Clean/disinfect equipment when removed from room

Enteric Precautions

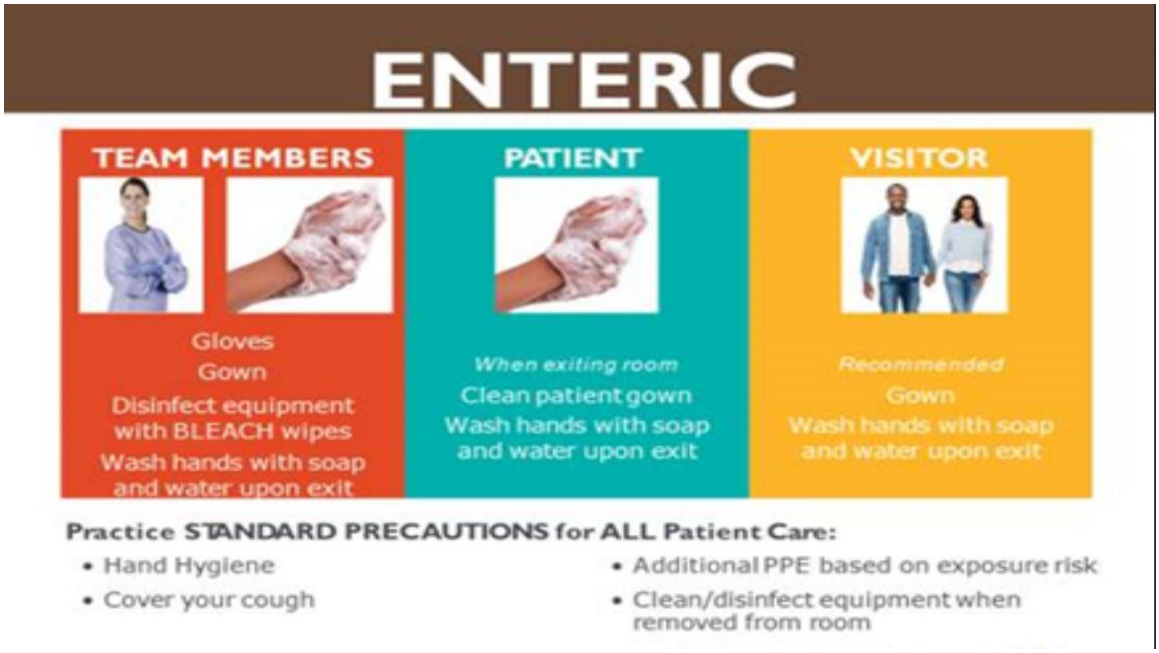
- Patients with diarrhea or vomiting are proactively isolated when enteric tests are ordered (C-difficile, Norovirus).
- Isolation practices include hand washing rather than foam (foam does not kill spores) after encounters and using bleach wipes for environmental cleaning.
- Terminal cleaning is required after enteric precautions are used. A sporicidal disinfectant is used.
- In settings where UV equipment is available, the room is ultraviolet light disinfected after terminal cleaning is complete.

UV light disinfecting device



In acute care settings, door signs are used to indicate what precaution steps need to be taken.

This is an example of a customer with Enteric precautions.



Full Barrier Precautions

Full Barrier precautions are used for emerging infectious pathogens where likelihood of transmission is high or not well understood.

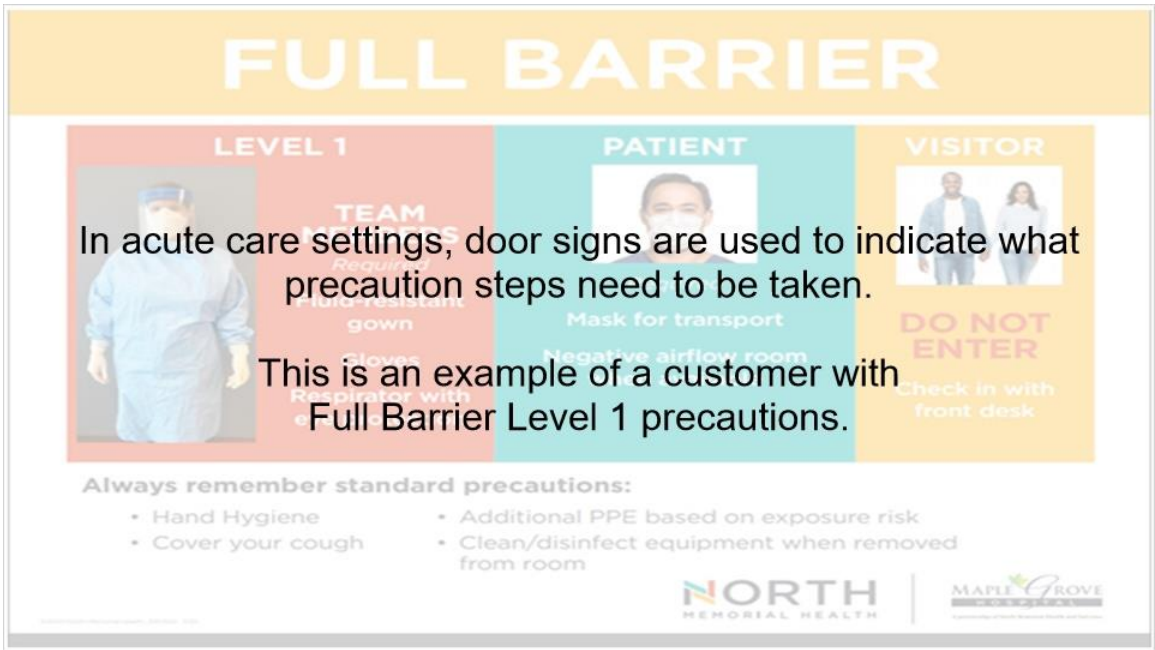
There are two types of Full Barrier precautions used:
Full Barrier Level 1: Used for respiratory illnesses such as COVID-19, Middle Eastern Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS), and

Full Barrier Level 2: Typically includes gastrointestinal or hemorrhagic disease presentations such as Ebola or Lassa Fever.

A private room and bathroom is required for patient placement. A negative airflow room may be required or preferred - Refer to organism specific protocols (i.e. COVID-19 protocols).

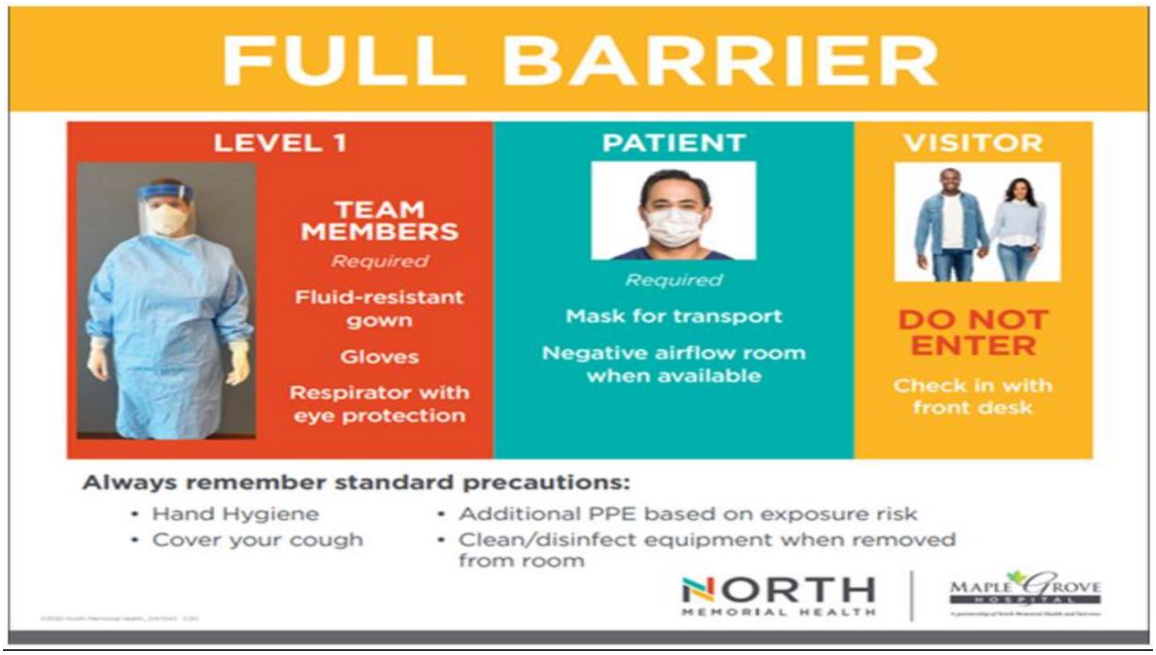
Full Barrier Level 1 Precautions

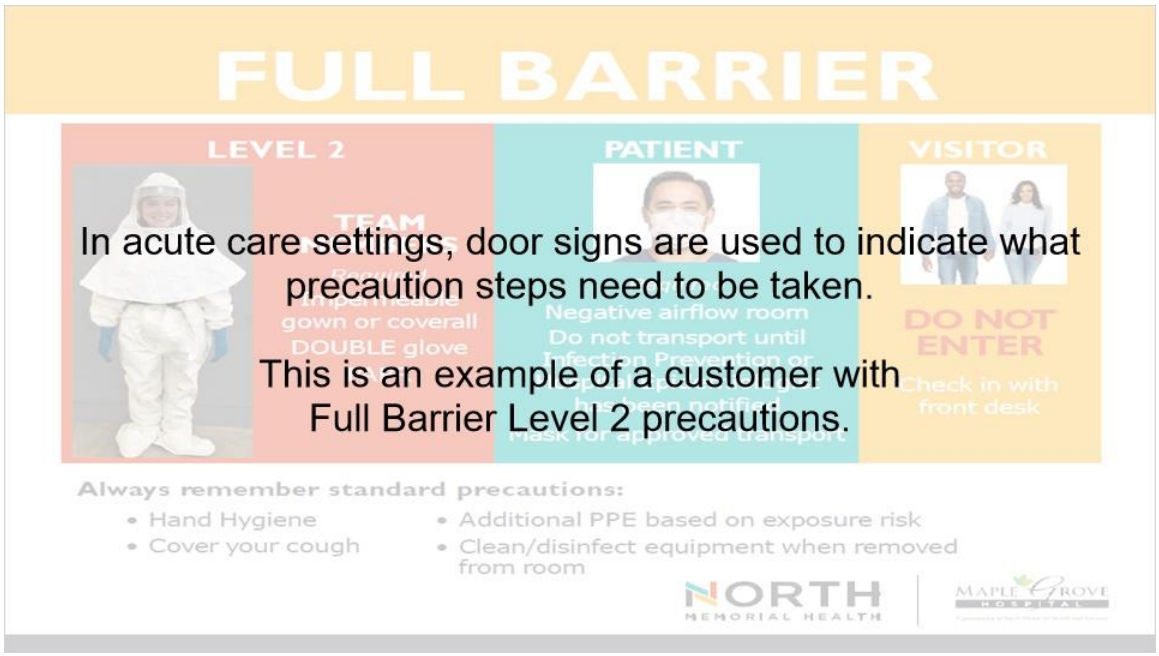
TYPE OF INFECTIOUS PRECAUTION	PERSONAL PROTECTIVE EQUIPMENT
FULL BARRIER PRECAUTIONS (i.e. known COVID positive, COVID PUI with test pending)	WHAT I WEAR ALL THE TIME WHEN CARING FOR PATIENTS Respirator (N95, elastomeric or PAPR) Universal eye protection Gown Gloves



In acute care settings, door signs are used to indicate what precaution steps need to be taken.

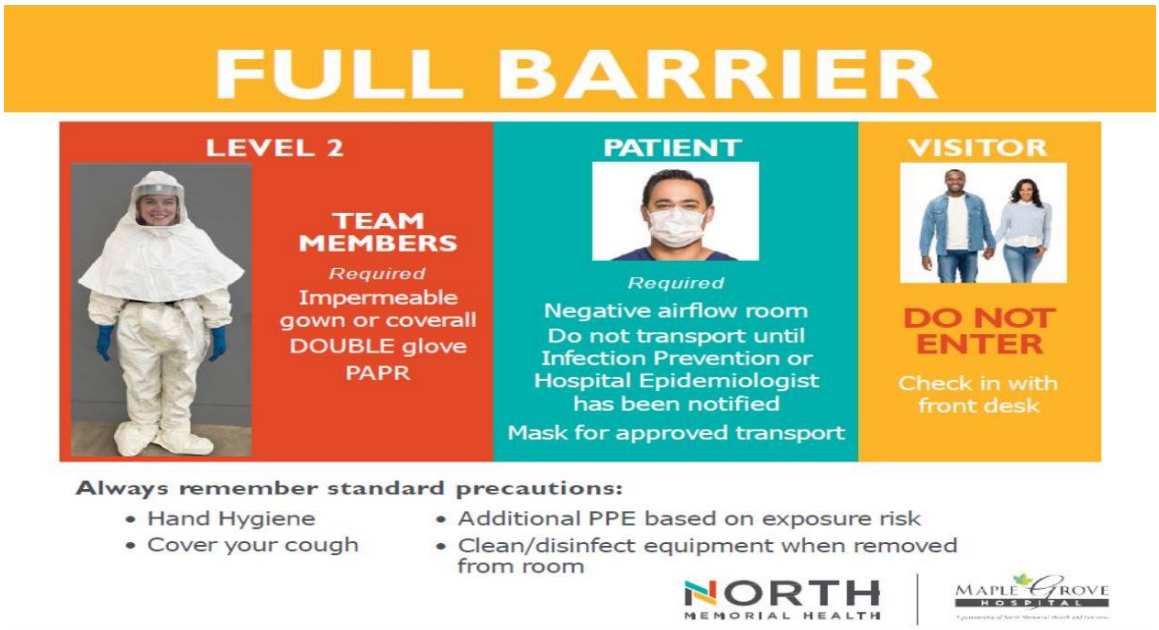
This is an example of a customer with Full Barrier Level 1 precautions.





In acute care settings, door signs are used to indicate what precaution steps need to be taken.

This is an example of a customer with Full Barrier Level 2 precautions.



Blood and Body Fluid Exposure

Bloodborne Pathogens

NMH maintains an **Exposure Control Plan** to mitigate exposure opportunity to bloodborne pathogens (BBP). The plan is reviewed annually and available to team members in *C360.*

Bloodborne pathogens include:

- Hepatitis B (HBV)
- Hepatitis C (HCV)
- Human Immunodeficiency Virus (HIV)

Epidemiology and Symptoms

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

Click on each of the items to the left to learn more about epidemiology and symptoms.

Epidemiology and Symptoms

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

Hepatitis B (HBV) is a virus that cause acute or chronic liver infection, which can lead to permanent liver damage, failure or cancer.

- Symptoms include fever, fatigue, loss of appetite, nausea, vomiting, pain, jaundice
- Transmission occurs through activity that involves puncture through the skin, mucosal contact with infectious blood/body fluid
- Incidence of HBV is declining in the United States (U.S.) due to vaccination efforts

Epidemiology and Symptoms

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

Hepatitis C (HCV) is a virus that cause acute or chronic liver infection, which can lead to permanent liver damage, failure or cancer

- Symptoms include fever, fatigue, loss of appetite, nausea, vomiting, pain, jaundice
- HCV may show no symptoms at all
- Transmission occurs through activity that involves puncture through the skin, mucosal contact with infectious blood/body fluid
- An estimated 2.7-3.9 million people have chronic HCV in the U.S.

Epidemiology and Symptoms

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

Human immunodeficiency virus (HIV) is a virus that attacks the immune system and can lead to a more severe phase called AIDS

- Initial symptoms include fever, chills, fatigue, muscle aches, sore throat and swollen lymph nodes
- Transmission occurs through activity that involves puncture through the skin, sexual contact with infectious blood/body fluid
- While new infections are declining in the U.S., 1.1 million people in the U.S. live with HIV.

Exposure Risks

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

Click on each of the items to the left to learn more about exposure risks.

Exposure Risks

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

HBV is preventable through vaccination.

Without the vaccine, the risk of acquiring HBV after exposure is 6-30%

- NMH offers vaccination to susceptible team members at no cost
- The vaccine is highly effective, with 95% efficacy

Exposure Risks

Hepatitis B (HBV)

Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

The risk for acquiring HCV after exposure is ~1.8%. Up to 85% of those infected will develop chronic infection

- There is no vaccine to prevent HCV
- After an exposure, ongoing follow up/monitoring may be required with clinician.

Exposure Risks

Hepatitis B (HBV)

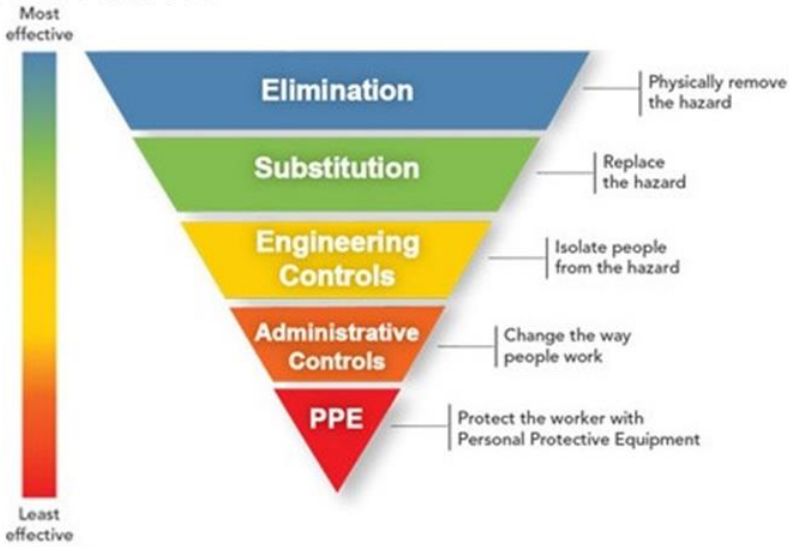
Hepatitis C (HCV)

Human Immunodeficiency Virus (HIV)

Healthcare worker risk for HIV is considered low. The likelihood of infection after exposure through a contaminated needle is <1%

- There is no vaccine to prevent HIV

Hierarchy of Controls



Bloodborne Pathogen Exposure

A bloodborne pathogen (BBP) exposure is defined as an event in which personnel come into contact with blood, body fluids, or other potentially infectious material through direct contact, contaminated instruments or by other indirect means (e.g. needle stick).

BBP exposures should be reported as soon as possible to supervisor so counseling and medical evaluation can be done timely before entering event in Safety First Reporting.

Blood/Body Fluid Exposures – What Should You Do?

Robbinsdale | Blaze | MGH | Non-employed

Click on the button above of your location to learn what to do for those populations.

Policy and procedure for managing an exposure can be found in the **Bloodborne Pathogen Exposure Management** policy located in *C360*

Blood/Body Fluid Exposures – What Should You Do?

Robbinsdale | Blaze | MGH | Non-employed

North Memorial Team Members report to the Team Member Health Center when exposure occurs during their business hours. At all other times, report to the NMHH Emergency Department (ED).

Policy and procedure for managing an exposure can be found in the **Bloodborne Pathogen Exposure Management** policy located in *C360*

Blood/Body Fluid Exposures – What Should You Do?

Robbinsdale	Blaze	MGH	Non-employed

Maple Grove Team Members should go to MGH Emergency Care Center (ECC) when exposure occurs.

Policy and procedure for managing an exposure can be found in the **Bloodborne Pathogen Exposure Management** policy located in *C360*

Blood/Body Fluid Exposures – What Should You Do?

Robbinsdale	Blaze	MGH	Non-employed

Contractors or non-employed individuals working in an NMH facility who experience an exposure should report to ED or ECC.

Policy and procedure for managing an exposure can be found in the **Bloodborne Pathogen Exposure Management** policy located in *C360*

Blood/Body Fluid Exposures – What Should You Do?

Robbinsdale	Blaze	MGH	Non-employed

- Report all blood and body fluid exposures to your supervisor immediately.
- Ask the customer to wait as blood will need to be collected before leaving.
- Exposure packets are in the Lab or with your supervisor at each clinic with instructions.
- Call Team Member Health for assistance during the hours of 7:00am - 3:30pm
- High-risk exposure (known HIV positive) proceed immediately to Robbinsdale or Maple Grove Hospital (closest location to your clinic)

Policy and procedure for managing an exposure can be found in the **Bloodborne Pathogen Exposure Management** policy located in *C360*

Blood/Body Fluid Exposures – What Should You Do?

For **customer exposures**, Infection Prevention should be alerted ASAP.

Patients can also experience BBP exposure.
Examples: Breast milk given to wrong infant, insulin pen of one patient used by another, use of contaminated surgical instrument

Policy and procedure for managing an exposure can be found in the **Bloodborne Pathogen Exposure Management** policy located in *C360*

Necessary Safety Practices

Food and Drink Storage

Personal food and drink may not be stored on any surface where:

- There is potential for cross-contamination with blood/body fluid
- Patient care support such as specimen handling/storage, equipment reprocessing or supply storage occurs

THIS IS AN OSHA REQUIREMENT.

Food and beverage should be stored in a designated location on the unit.

Potential cross-contamination, drinks stored on countertop used for patient care support

Linen Management

Clean linens should be covered during transport and stored in covered containers, or within a closed storage room.

Soiled/used linen is considered contaminated and should be handled wearing gloves

- Dispose at point-of-use in designated container
- When moving to a collection area, wear gloves and keep away from your uniform

Healthcare-Acquired Infections (HAI)

North Memorial Health monitors and reports healthcare-acquired infections. HAIs can be prevented through:

- practicing transmission-based precautions
- routinely performing hand hygiene
- maintaining sterile technique
- removing invasive devices when they are no longer necessary

HAI reporting is a part of government quality programs. Healthcare systems can be financially penalized when infections occur.

End of Course

That's the end of this module.

CLOSE THIS MODULE.

Respirator Training

Respiratory Protection Program

A respiratory protection program has been developed that establishes the safe use of respirators within our system. It is available for your review in C360 "Infection Prevention: Respiratory Protection Program."

At the end of this module, you should understand:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
- When to use respirators
- Purpose of fit testing
- What the limitations and capabilities of the respirator are
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
- How to inspect, put on and remove, use, and check the seals of the respirator
- What the procedures are for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators

Why Use a Respirator

Respirators in healthcare are used to filter out tiny infectious particles and prevent them from coming in contact with your respiratory system and transmitting disease.

Types of Respirators in Healthcare

Filtering Facepiece (N95)

Powered Air Purifying Respirator (PAPR)

Elastomeric half face Respirator

The type you use will depend on:

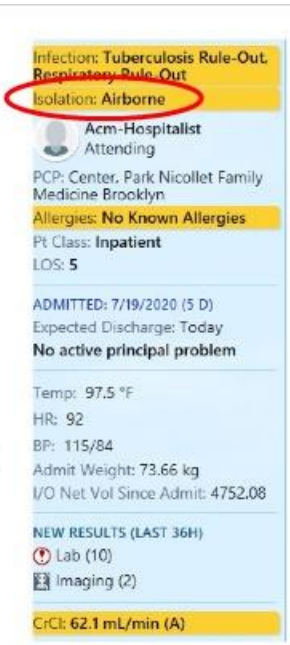
- Your clinical setting
- Your unique medical issues based on the medical clearance you have completed.
- Your ability to obtain adequate seal during a fit test.

You will know when to use a respirator for a patient as guided by Infection Prevention: Isolation Precautions Master Grid

Epic

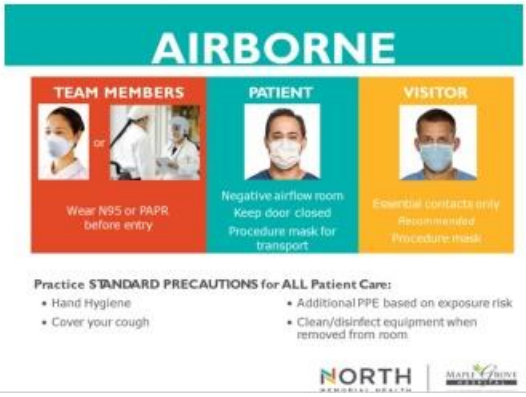
How do I know when to use a respirator?

These Epic screenshots show examples of where to find special isolation precautions.



Door signs

There are also door signs that direct you to the appropriate PPE needed to protect yourself while entering the room.



Knowledge Check

Do you know your respirator's limitations?

?

Click here to continue

Knowledge Check

Unless specifically approved for another hazard defined by the respiratory protection program, the healthcare respirator's primary intent is to filter particles. Do not assume they will protect you from air that is unsafe to breathe due to vapors, gases or insufficient oxygen.

Fit Testing

- Tight fitting respirators (Filtering facepiece, elastomerics, etc.) rely on a seal between your face and the respirator to be effective.
- Fit testing is a procedure that ensures the seal is adequate for you, as all faces are unique. It can either be a qualitative test or a quantitative test.
- Fit testing does not take the place of seal checks, which are safety checks that you should do anytime you don a tight fitting respirator.
- Fit testing is done annually, when there are any significant changes in your facial structures and any time you are using a new model of respirator.

Medical Limitations

An initial medical clearance is performed before you start wearing a respirator, and periodically after to ensure you are safe when wearing the respirator. However, if you have any of the following occur ***since your last fit test***, consult Team Member Health:

- Weight gain or loss of over 20 pounds
- Facial structural changes (significant dental work, facial surgery or fractures)
- Any intolerance to the respirator including skin rashes, difficulty breathing, any symptoms you note worsen or only occur with respirator use.

For clinic team members, supervisors perform fit testing, update your supervisor of any of the changes listed above.

Other Limitations

Facial hair that is present <u>under a tight fitting respirator's seal</u> makes the respirator ineffective.

Click on this pictograph to view typical facial hair styles and their potential for interfering with a tight fitting respirator.

Improper Use Can Limit Effectiveness

Use of a respirator inappropriately can put you at increased risk of infection. Key practices that help protect you are:

- Only use the model that you have been successfully fit tested for (other than PAPR).
- Inspect the respirator for defects before wearing.
- Ensure you know how to don, doff or operate the respirator.
- Perform a seal check every time you don your respirator.
- Ensure your face is free of facial hair for any tight-fitting respirator.
- Perform hand hygiene prior to donning the respirator and following its removal.

Emergency Situations

In the event the respirator malfunctions, remove yourself from the room/hazardous area as soon as possible and report the defect via Safety First.

Types of Respirators in Healthcare

Filtering Facepiece (N95)

Powered Air Purifying Respirator (PAPR)

Elastomeric half face Respirator

Click here to continue.

N95

A filtering facepiece respirator (commonly known as a N95 in healthcare) is a tight fitting device that functions by collecting tiny infectious particles (generally <1 to >100 µm) and preventing inhalation. N95 refers to the level of filtration (N=not resistant to oil and 95=filters at least 95% of airborne particles). There are numerous manufacturers and models, so it is vital you only utilize ones that you have successfully fit tested.

Inspection Prior to Use of Filtering Facepiece Respirator

Component	Check for
Head Straps	Loss of elasticity, torn, cut
Facepiece	Cracked, torn, distorted, dirty
Inhalation/Exhalation Diaphragms (only on some models)	Missing, torn, improperly seated.

Donning and Seal Check

- Team Members will be instructed on donning at the time of fit testing, and varies slightly by model.
- All models require the user to perform a seal check after you put it on, to ensure that you have been successful in obtaining a good seal.
- A seal check is done by covering your mask with a clean hand, and exhaling sharply to create pressure. If a leak is detected, readjust or discard respirator if unable to obtain after repeated attempts.

In “Normal Times…”

Typically, Filtering Facepiece Respirators (N95's) are disposable items and can be discarded after use.

In periods of supply insufficiency, instruction may be given to re-use the respirator as long as it is structurally intact and not grossly contaminated. Details of this process will be given if implemented.

The following pages describe the process implemented during the COVID-19 pandemic of 2020.

Reuse will not be done if the N95 is:

- Damaged (straps, nose piece broken, crushed).
- Dirty/Soiled such as uncovered respirator with intubation/extubation.
- Damp from prolonged wear and Team Member’s respiration.

Critical Step: Cover the N95 externally to keep the respirator free from contamination.

Reusable Face Shield Cover over N95 respirator.

Non-reusable Droplet Visor Mask over N95 respirator.