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# Personal Protective Equipment (PPE)

## Remembering the Basics while Keeping an Eye on COVID

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# Objectives

- Brief overview of Standard and Transmission-Based Precautions
- Keeping an eye on COVID-19! Prevention and Therapeutic Treatment
- Brief Introduction of Project Firstline

# Standard Precautions

The basic practices apply to all patient care, regardless of the patient's suspected or confirmed infectious state, and apply to all settings where care is delivered.

These practices protect health care personnel and prevent health care personnel or the environment from transmitting infections to other patients.

# Standard Precautions: Practice & PPE

Standard Precautions include a group of infection prevention practices that apply to all patients, regardless of suspected or confirmed infection status, in any setting in which health care is delivered.

# Standard Precautions: Practice & PPE

These include:

- Hand hygiene
- Use of gloves
- Gown
- Mask
- Eye protection or face shield, depending on the anticipated exposure
- Safe injection practices

# Standard Precautions: Practice & PPE

The application of Standard Precautions during patient care is determined by the nature of the health care personnel (HCP)-patient interaction and the extent of anticipated blood, body fluid, or pathogen exposure.

- For some interactions (e.g., performing venipuncture), only gloves may be needed
- During other interactions (e.g., intubation), use of gloves, gown, and face shield or mask and goggles is necessary

# Standard Precautions: Practice & PPE

Education and training on the principles and rationale for recommended practices are critical elements of Standard Precautions.

- Facilitate appropriate decision-making and promote adherence when HCPs are faced with new circumstances
- Protect patients by ensuring that HCP do not carry infectious agents to patients on their hands or via equipment used during patient care

# Standard Precautions: What is New?

Infection control problems that are identified in the course of outbreak investigations often indicate the need for new recommendations or reinforcement of existing infection control recommendations to protect patients.

Because such recommendations are considered a standard of care and may not be included in other guidelines, they are added to Standard Precautions.



# Standard Precautions: What is New?

## Respiratory Hygiene/Cough Etiquette

The strategy is targeted at patients and accompanying family members and friends with undiagnosed transmissible respiratory infections, and applies to any person with signs of illness including cough, congestion, rhinorrhea, or increased production of respiratory secretions when entering a health care facility.

# Standard Precautions: What is New?

## Respiratory Hygiene/Cough Etiquette Elements:

- Education of health care facility staff, patients, and visitors
- Posted signs, in language(s) appropriate to the population served, with instructions to patients and accompanying family members or friends
- Source control measures (e.g., covering the mouth/nose with a tissue when coughing and prompt disposal of used tissues, using surgical masks on the coughing person when tolerated and appropriate)
- Hand hygiene after contact with respiratory secretions
- Spatial separation, ideally >3 feet, of persons with respiratory infections in common waiting areas when possible

# Standard Precautions: What is New?

## Safe Injection Practices

Outbreaks related to unsafe injection practices indicate that some health care personnel are unaware of, do not understand, or do not adhere to basic principles of infection control and aseptic technique.

Principles of infection control and aseptic technique need to be reinforced in training programs and incorporated into institutional policies that are monitored for adherence.

# Standard Precautions: What is New?

## Safe Injection Practices

The primary breaches in infection control practice that contributed to outbreaks were:

- Reinsertion of used needles into a multiple-dose vial or solution container (e.g., saline bag)
- Use of a single needle/syringe to administer intravenous medication to multiple patients

# Standard Precautions: What is New?

## Infection Control Practices for Special Lumbar Puncture Procedures

In October 2005, the Healthcare Infection Control Practices Advisory Committee (HICPAC) reviewed the evidence and concluded that there is sufficient experience to warrant the additional protection of a face mask for the individual placing a catheter or injecting material into the spinal or epidural space.

# Transmission Based Precautions: Practice & PPE

Additional precautions for patients with documented or suspected diagnoses where contact with the patient, their body fluids, or their environment presents a substantial transmission risk despite adherence to Standard Precautions.<sup>1</sup>

There are three categories of Transmission-Based Precautions:

- Contact Precautions
- Droplet Precautions
- Airborne Precautions<sup>2</sup>

# Transmission Based Precautions: Practice & PPE

Transmission-Based Precautions are used when the route(s) of transmission is (are) not completely interrupted using Standard Precautions alone.

For diseases that have multiple routes of transmission (e.g., SARS), more than one Transmission-Based Precautions category may be used.

# Transmission Based Precautions: Practice & PPE

When used either singly or in combination, they are always used in addition to Standard Precautions.<sup>1</sup>

See Appendix A for recommended precautions for specific infections.<sup>2</sup>



# Transmission Based Precautions: Contact Precautions

Contact Precautions are intended to prevent transmission of infectious agents, including epidemiologically important microorganisms, which are spread by direct or indirect contact with the patient or the patient's environment.

Health care personnel caring for patients on Contact Precautions wear a gown and gloves for all interactions that may involve contact with the patient or potentially contaminated areas in the patient's environment.

# Transmission Based Precautions: Contact Precautions

**Donning** PPE upon room entry and **discarding** before exiting the patient room is done to contain pathogens, especially those that have been implicated in transmission through environmental contamination (e.g., VRE, C. difficile, noroviruses and other intestinal tract pathogens; RSV).

- Know your facility's policy and procedure.

# Transmission Based Precautions: Droplet Precautions

Droplet Precautions are intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions.

Health care personnel wear a mask (a respirator is not necessary) for close contact with infectious droplets.

# Transmission Based Precautions: Airborne Precautions

Airborne Precautions prevent transmission of infectious agents that remain infectious over long distances when suspended in the air (e.g., rubeola virus [measles], varicella virus [chickenpox], *M. tuberculosis*, and possibly SARS-CoV).

The preferred placement for patients who require Airborne Precautions is in an airborne infection isolation room (AIIR).

# Transmission Based Precautions: Airborne Precautions

In settings where Airborne Precautions cannot be implemented, take the following measures until the patient is either transferred to a facility with an AIIR or returned to the home environment, as deemed medically appropriate:

- Mask the patient
- Place the patient in a private room with the door closed
- Provide the patient an N95 or higher level respirator

# Transmission Based Precautions: Airborne Precautions

Health care personnel caring for patients on Airborne Precautions wear a mask or respirator, depending on the disease-specific recommendations, that is **donned prior to room entry**.<sup>1</sup>

Whenever respirators are required, employers must implement a written, worksite-specific respiratory protection program (RPP), as specified in the Occupational Safety and Health Administration (OSHA) Respiratory Protection standard,<sup>2</sup> including:

- Medical evaluation
- Fit testing
- Training
- Other elements

# When to change your N-95

Implementing Filtering Face piece Respirator (FFR) Reuse, Including Reuse after Decontamination, When There Are Known Shortages of N95 Respirators

- **N95 FFRs are meant to be disposed after each use.** CDC developed contingency and crisis strategies to help health care facilities conserve their supplies in the face of shortages.
- CDC's Strategies for Optimizing the Supply of N95 FFRs were written to follow a continuum using the surge capacity approach in the order of **conventional** (everyday practice), **contingency** (expected shortages), and **crisis** (known shortages) capacities.

# Keeping Our Eyes on COVID

## Know your facility's policy:

- Do you still have internal RED Zones?
- Are residents maintained “in place”?
- Are residents co-horted appropriately?

## Prevention is the best medicine!

- Does your center have a best practice for offering the vaccinations and the bivalent COVID-19 booster?
- Studies have shown that being vaccinated and boosted decrease the severity of COVID-19.



# Keeping Our Eyes on COVID

Initiate Therapeutic Treatment in a timely manner.

Learn more about COVID-19 therapies:

Oral Antivirals

IV Antivirals

Prevention Options

Therapeutic	Type of treatment	Start time after symptoms first appear
Paxlovid	Oral antiviral (pills)	As soon as possible and up to <b>5 days</b>
Lagevrio (molnupiravir)	Oral antiviral (pills)	As soon as possible and up to <b>5 days</b>
Veklury® (remdesivir)	IV infusion antiviral	As soon as possible and up to <b>7 days</b>
Evusheld	Long-acting antibody combination (injection)	Preventative, <b>before exposure</b>

**Source:** Screenshot from Administration for Strategic Preparedness & Response (ASPR). [“What Are the Possible Treatment Options for COVID-19?”](#)

# What is Project Firstline?

## Project Firstline

- Provides innovative and accessible infection control education for all frontline health care workers
- Was developed to address long-standing gaps in infection control knowledge and practice in health care settings nationwide, which were highlighted most recently as a result of the COVID-19 pandemic
- Intends to provides relevant information and training for all health care workers regardless of role
- Offers a variety of infection control educational resources
- Works with a diverse group of health care, public health, and academic partners, as well as state and local territorial health departments

# Choosing the right PPE for COVID-19

- <https://www.cdc.gov/infectioncontrol/projectfirstline/resources/PPE-COVID-19.html>

**Using the right PPE at the right time  
prevents the spread of germs  
in health care facilities**



# Project Firstline

Pennsylvania Project Firstline Training

<https://www.health.pa.gov/topics/programs/HAIP-AS/Pages/PA-Project-Firstline.aspx>

West Virginia Project Firstline Training

[https://oeps.wv.gov/project\\_firstline/pages/default.aspx](https://oeps.wv.gov/project_firstline/pages/default.aspx)

CDC Project Firstline Training

<https://www.cdc.gov/infectioncontrol/projectfirstline/index.html>

# Resources

- Isolation Precautions <https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>
- Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>
- Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings <https://www.cdc.gov/infectioncontrol/guidelines/core-practices/index.html>
- 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings Last update: May 2022 <https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf>
- Appendix A <https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/index.html>
- Example of Safe Donning and Removal of Personal Protective Equipment (PPE) <https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/ppe.html>
- Respiratory Protection Guidance for the Employers of Those Working in Nursing Homes, Assisted Living, and Other Long-Term Care Facilities During the COVID-19 Pandemic <https://www.osha.gov/sites/default/files/respiratory-protection-covid19-long-term-care.pdf>
- Implementing Filtering Face piece Respirator (FFR) Reuse, Including Reuse after Decontamination, When There Are Known Shortages of N95 Respirators <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html>
- Project Firstline <https://www.cdc.gov/infectioncontrol/projectfirstline/index.html>

# Questions?



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