

# Personal Protective Equipment (PPE) - Infection Control

## Site Applicability

All PHC Acute and Long Term Care Sites.

## Practice Level

All PHC staff working directly with patients/residents.

## Standard

Before each patient/resident interaction, a [Point of Care Risk Assessment](#) (PCRA) should be performed to determine the appropriate Personal Protective Equipment (PPE) needed to provide safe care. A PCRA is indicated for PPE selection even when a patient is on [Additional Precautions](#) as more PPE may be indicated.

For all instances where PPE is recommended, hand hygiene should be performed before donning and after doffing PPE as per [Routine Practices](#). Gloves are not a substitute for hand hygiene.

## Guideline

Personal Protective Equipment (PPE) is specialized clothing/equipment worn alone or in combination for protection against exposure to infectious microorganisms and to materials or substances that may harbor infectious microorganisms. PPE includes gloves, gowns, eye protection, masks, and N95 respirators.

PPE use is considered a Routine Practice and is indicated for:

- Tasks where there could be contact with mucous membranes or non-intact skin, [blood/body fluids \(BBF\)](#), or contaminated objects/surfaces.
- Tasks that may produce splashes/sprays of BBF that could contact skin, clothing, mucous membranes, or eyes.
- Tasks that could lead to inhalation of respiratory droplets and aerosols.
- Patients with a known or suspected infection/colonization requiring Additional Precautions.

The selection of the correct PPE for a particular task is achieved through performing a PCRA, even for patients already on Additional Precautions as more PPE may be required (see [Appendix A](#)).

The correct technique for putting on and taking off PPE should be followed at all times (see [Appendix B](#)). Hand hygiene must be performed before donning and after doffing PPE.

PPE should be put on just prior to the task for which it is required, and it should be removed after the task is complete when safe to do so and disposed of in the appropriate receptacle (e.g., garbage, laundry hamper).

PPE should not be used indiscriminately or when unnecessary as overuse can lead to increased environmental waste, shortages of supplies, added costs, and missed opportunities for hand hygiene (e.g., when wearing gloves for routine tasks and skipping hand hygiene).

## Gloves

Gloves should always be worn when there is anticipated contact of the wearer's hands with mucous membranes, non-intact skin, sterile tissue, BBF, secretions, excretions, or for touching equipment and surfaces contaminated with the previously mentioned substances.

Gloves are also indicated for use with patients/residents who require [Contact Precautions](#) for a known/suspected infection or colonization with a microorganism that is transmitted via the contact route.

Gloves are not a substitute for hand hygiene and are not required for routine care for patients/residents not on Contact Precautions in which there is only contact with the patient/resident's intact skin.

The right kind of glove must be chosen for the task to be performed. Types of gloves include:

- **Non-sterile, single-use examination gloves** that are clean at the time of use should be worn for any contact with BBF or non-intact skin that does not involve sterile tissue. They should also be used for handling items visibly soiled with BBF and secretions and excretions.
- **Sterile gloves** will be worn during all procedures that involve contact with sterile tissue.

## Appropriate glove use:

- Hand hygiene should be performed prior to the use of gloves.
- Gloves should be donned immediately prior to patient/resident contact or procedure requiring glove use.
- Gloves appropriate to the task should be worn.
- Wear the correct size of glove.
- When using with other PPE, gloves should be put on last and extended over the cuff of gowns if being worn.

- Gloves should be removed and hands cleaned immediately after activities that involve contact with materials that may contain microorganisms (e.g., handling an indwelling urinary catheter) before continuing care of that patient/resident.
- Gloves should be removed and discarded into a no-touch waste receptacle. When using with other PPE, gloves should be removed first.
- Single-use gloves should not be reused or any attempt to clean them made.
- Hand hygiene should be performed immediately following removal of gloves.

## Gowns

Gowns are used to protect the wearer's arms and exposed body areas and prevent contamination of clothing with BBF and other potentially infectious material, especially during procedures or activity that could generate splashes or sprays of BBF, secretions, or excretions.

Gowns are also indicated during direct care with patients/residents who require Contact Precautions for a known/suspected infection or colonization with a microorganism that is transmitted via the contact route.

Plastic aprons that cover the chest to the thighs but not the arms or back are not considered adequate PPE and should not be worn in place of gowns when gowns are indicated.

Gowns may be either:

- **Reusable/laundable** and disposed into laundry hamper after use.
- **Single use/disposable** and disposed into garbage after use.
- **Sterile disposable** for use during sterile procedures and disposed into garbage after use.

## Appropriate gown use:

- Hand hygiene should be performed before gowning.
- Gowns should be donned immediately prior to patient/resident contact or procedure.
- The gown should be put on with the opening at the back and edges overlapping, covering entire arms and as much clothing as possible (neck to mid-thigh or below).
- The gown should be tied at the neck and then at the waist.
- Gowns are always worn in combination with gloves. The cuffs of the gown should be covered by gloves.
- The gown should be removed by undoing the neck and then the waist ties, then gently turned inside out while doffing and rolled up.
- The gown should be removed immediately after the indication for use and placed in a no-touch receptacle, followed by hand hygiene.

- Gowns should not be reused once removed, even for repeated contact with the same patient.
- The same gown should not be worn between successive patients/residents.

## Eye Protection

Eye protection is worn to protect the mucous membranes of the eyes from respiratory droplets when within two metres of a patient/resident who is coughing as well as during procedures or activity that could generate splashes or sprays of BBF, secretions, or excretions.

Eye protection is also indicated when within two metres of patients/residents who require [Droplet Precautions](#) for a known/suspected infection or colonization with a microorganism that is transmitted via respiratory droplets or vomitus.

Prescription eyewear does not provide adequate eye protection and is not considered appropriate PPE. Eye protection is available that can be worn over top of prescription eyewear (e.g., safety goggles or face shields).

Eye protection approved as PPE includes:

- **Safety glasses**
- **Safety goggles**
- **Visors attached to masks**
- **Face shields**

## Appropriate eye protection use:

- Hand hygiene should be performed prior to putting on eye protection.
- Avoid touching eye protection while wearing it.
- Eye protection should be removed when more than two metres away from the patient.
- If single use, eye protection should be discarded immediately after the intended use into a no-touch receptacle followed by hand hygiene.
- If eye protection or face shields are reusable, they should be cleaned and disinfected as per [established guidelines](#).

## Masks

Masks are worn to protect the mucous membranes of the nose and mouth from respiratory droplets when within two metres of a patient/resident who is coughing as well as during procedures or activity that could generate splashes or sprays of BBF, secretions, or excretions.

Masks are also indicated when within two metres of patients/residents who require Droplet Precautions for a known/suspected infection or colonization with a microorganism that is transmitted via respiratory droplets or vomitus.

For patients who require both [Airborne](#) and Droplet Precautions (e.g., COVID-19), a fit-tested N95 respirator should be worn in place of a mask.

Masks should be worn when needing to maintain sterility such as in operating rooms or when performing aseptic procedures (e.g., central line insertions, spinal epidural).

If tolerated, masks should be applied to patients/residents with respiratory infections who are coughing when outside of the patient/resident's room to limit the spread of infectious secretions.

Masks include:

- **Medical/procedure mask**
- **Visor mask**
- **Surgical mask**

**Appropriate mask use:**

- Hand hygiene should be performed prior to putting on a mask.
- Nose, chin and mouth should be securely covered when wearing a mask with metal strip molded over bridge of nose.
- Avoid touching mask while wearing it.
- Masks should be removed when more than two metres away from the patient.
- Masks should be removed carefully by the straps or ties and lifting away from the face.
- Masks should be discarded immediately after the intended use into a no-touch receptacle followed by hand hygiene.
  - In situations where masks are worn for prolonged periods (e.g., respiratory outbreaks or pandemics), masks should be changed if they become wet or soiled, if breathing becomes difficult, and when leaving for breaks and meals.
- Do not reuse disposable masks once removed, and do not fold and put masks in a pocket for later use.

## N95 Respirators

N95 respirators are used to prevent inhalation of small respiratory particles (aerosols) that may contain infectious microorganisms transmitted via the airborne route and also during aerosol generating medical procedures in patients/residents with a confirmed/suspected respiratory infection.

N95 respirators are also indicated when within the same room as a patient/resident who requires [Airborne Precautions](#) for a known/suspected infection with a microorganism that is transmitted via respiratory aerosols.

For patients who require both Airborne and Droplet Precautions (e.g., COVID-19), a fit-tested N95 respirator should be worn in place of a mask.

The correct N95 respirator model to wear is specific to each individual and determined through a fit test, which should be repeated annually. Only wear a fit-tested N95 respirator as other models may not provide sufficient protection.

### Appropriate N95 respirator use:

- Hand hygiene should be performed prior to putting on an N95 respirator.
- Nose, chin and mouth should be covered when wearing an N95 respirator mask with metal strip molded over bridge of nose.
- Perform a seal check each time a new N95 respirator is donned by feeling for air leaks escaping around edges.
- Avoid touching N95 respirator while wearing it.
- N95 respirator should be removed when outside of the patient/resident's room when the door is closed.
- N95 respirator should be removed carefully by pulling the straps over the head and outward, lifting away from the face.
- N95 respirator should be discarded immediately after the intended use into a no-touch receptacle followed by hand hygiene.
  - In situations where N95 respirators are worn for prolonged periods (e.g., respiratory outbreaks or pandemics), respirators should be changed if they become wet or soiled, if breathing becomes difficult, and when leaving for breaks and meals.

## Related Documents

- [B-00-14-13004](#) - How to Clean & Disinfect Reusable Protective Eyewear
- [B-00-07-13081](#) - Point of Care Risk Assessment - IPAC Best Practice Guideline
- [B-00-07-13045](#) - Routine Practices - Infection Control

**Additional Precautions:**

- [B-00-07-13084](#) - Airborne and Contact Precautions - Infection Control
- [B-00-07-13028](#) - Airborne Precautions - Infection Control
- [B-00-07-13074](#) - Contact Plus Precautions - Infection Control
- [B-00-07-13029](#) - Contact Precautions - Infection Control
- [B-00-07-13079](#) - Droplet and Contact Precautions - Infection Control
- [B-00-07-13030](#) - Droplet Precautions - Infection Control

**References**

- Centers for Disease Control and Prevention. (2022). 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Retrieved from <https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf>
- Provincial Infectious Diseases Advisory Committee. (2012). Routine Practices and Additional Precautions in All Health Care Settings. Retrieved from [https://www.publichealthontario.ca/-/media/Documents/B/2012/bp-rpap-healthcare-settings.pdf?sc\\_lang=en](https://www.publichealthontario.ca/-/media/Documents/B/2012/bp-rpap-healthcare-settings.pdf?sc_lang=en)
- Public Health Agency of Canada. (2017). Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings. Retrieved from <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/routine-practices-precautions-healthcare-associated-infections.html>

**Definitions**

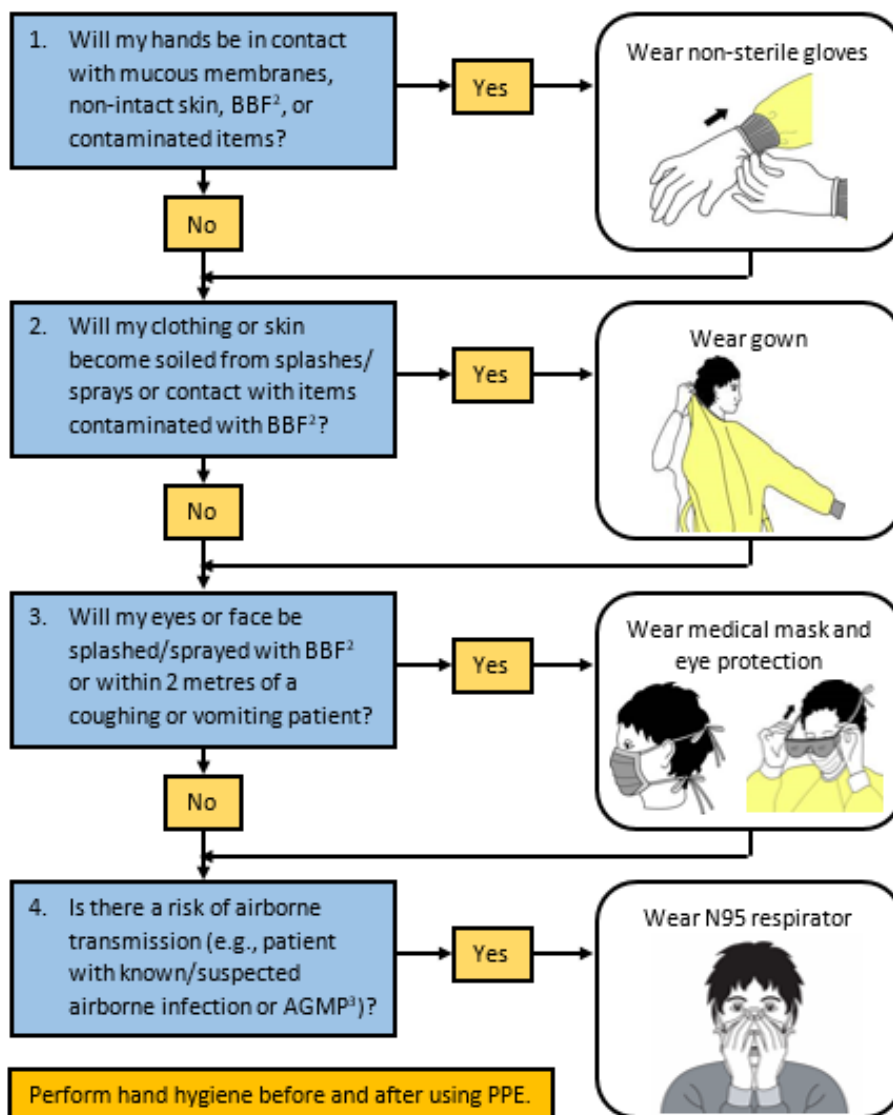
**“Aerosol generating medical procedures”** include endotracheal intubation and extubation, high frequency oscillatory ventilation, bag mask ventilation, deep airway suctioning, bronchoscopy, non-invasive positive pressure ventilation (e.g., CPAP and BiPAP), and autopsy of lung tissue.

**“Blood and body fluids (BBF)”** include blood, urine, feces, wound drainage, saliva, vomit, CSF, sputum, nasal secretions, semen, and vaginal secretions.

## Appendix A: Point of Care Risk Assessment for Personal Protective Equipment Selection

### Point of Care Risk Assessment Algorithm

A PCRA is to be performed prior to contact with every patient in the patient environment<sup>1</sup>, even if the patient has been placed on Additional Precautions as more PPE may be required.



#### Notes

1. Patient environment – any area within 2 metres of the patient as well as their belongings and bathroom, or the immediate space around a patient that may be touched by the patient and health care provider when providing care or performing tasks
2. BBF – blood and body fluids; includes urine, feces, wound drainage, saliva, vomit, CSF, sputum, nasal secretions, semen, vaginal secretions
3. AGMP – aerosol-generating medical procedure; includes nebulized therapy, airway suctioning, bronchoscopy, high flow oxygen administration, non-invasive positive pressure ventilation, intubation/extubation, and CPR



## Appendix B: Sequence for Donning and Doffing Personal Protective Equipment

### Sequence for donning Personal Protective Equipment (PPE)

#### Perform hand hygiene

#### 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 (or fit loops over ears)
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit check respirator



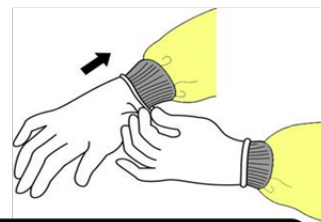
#### 3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



#### 4. GLOVES

- Extend to cover wrists of isolation gown



**Use Safe Work Practices to Protect Yourself and Limit the Spread of Pathogens**

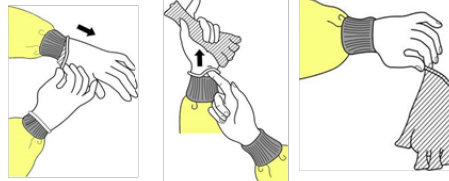
- Perform hand hygiene
- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated

Adopted from the Guidance for Selection and Use of Personal Protective Equipment (PPE) in Healthcare Settings (CDC, 2018)

## Sequence for removing Personal Protective Equipment (PPE)

### 1. GLOVES

- Outside of gloves are contaminated
- Grasp outside of glove with opposite gloved hand; peel off
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glove



**Perform hand hygiene**

### 2. GOWN

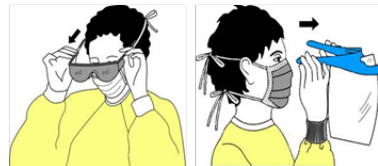
- Gown front and sleeves are contaminated
- Unfasten ties
- Pull away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard



**Perform hand hygiene and leave isolation room**

### 3. GOGGLES or FACE SHIELD

- Outside of goggles or face shield is contaminated
- To remove, handle by headband or ear pieces



**Perform hand hygiene**

### 4. MASK or RESPIRATOR

- Front of mask/respirator is contaminated  
**DO NOT TOUCH**
- Grasp bottom, then top ties, or elastic loops to remove
- Discard in waste container



**Perform hand hygiene**



**INFECTION PREVENTION AND CONTROL**  
PROVIDENCE HEALTH CARE

Adopted from the Guidance for Selection and  
Use of Personal Protective Equipment (PPE) in Healthcare Settings  
(CDC, 2018)

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