
Infection Control

F880

Personal Protective Equipment

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Inservice Training Program

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F880
Infection Control – Personal Protective Equipment

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Disclaimer

Data contained in this publication has been developed from the current State Operations Manual, *Appendix PP, F880 – Infection Control and CDC Guidelines for the Use of Personal Protective Equipment*. We make no warranties, express or implied, regarding errors or omissions and assume no legal liability or responsibility for loss or damage resulting from the use of this information. Information provided herein is provided as a **template only**. If you implement this training program, be sure your QAPI/QAA Committee, or other authorized facility representative, reviews and modifies the data to meet your facility’s operational needs. The services of an attorney or other healthcare professional should be sought if legal service or administrative guidance is needed or required.

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Personal Protective Equipment

An In-Service Training Program

Instructor Presentation & Notes

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- **Source:**
 - F880 – Infection Prevention and Control Program regulations and interpretive guidelines and CDC’s “Guidance for the Selection and Use of PPE in Healthcare Settings.”
- **Handouts:** The following handouts are located in [Part 2](#). Use at your discretion.
 - ✓ [Handout #1](#) – Participant Session Outline.
 - ✓ [Handout #2](#) – Sequence for Putting On PPE.
 - ✓ [Handout #3](#) – Sequence for Removing PPE.
 - ✓ [Handout #4](#) – Putting on and Taking off a Disposable Respirator.
 - ✓ [Handout #5](#) – PPE Competency Validation Checklist.
 - ✓ [Handout #6](#) – PPE Competency Evaluation Exam.
- Modify this training session to meet your facility’s needs. Information is presented as a template only. **Note:** Be sure all participants sign the [Record of Attendance Form](#). (See [Part 3](#))
- **OPTIONAL:** Provide participants with a copy of [Handout #1-Participant Session Outline](#).
- **Suggestion:** Prior to beginning the session, you may want to ask participants to complete the [Competency Evaluation Exam \(Handout #6\)](#). Use the results to identify those areas that may need strengthening. It may not be necessary to train on areas where participants exhibit competency in hand hygiene practices.

Session Objectives

Upon completion of this training session, you should be able to:

- Define **personal protective equipment (PPE)**.
- Discuss **reasons** PPE is **NOT** used.
- Identify the **types** of PPE and their purpose.
- Discuss three **key factors** to use when **selecting** PPE.
- Discuss the **process** for **selecting** PPE.
- Discuss **key points** about PPE.
- Review the **correct sequence** of putting on and removing PPE.
- Review and discuss **scenarios** concerning the **selection** of PPE.

- **Suggestion:** Prior to moving to the next slide, ask participants how important the use of PPE is to them.
- This will provide you with a sense of how knowledgeable your participants are about your facility's use of personal protective equipment as well as their use of PPE.
- Tell participants that each of these objectives are discussed during the training session.
- **Instructor Note:** Remind participants that during emergencies, PPE supplies may be limited. However, it is still **crucial** that caregivers continue to **follow** the appropriate procedures for **putting on, removing, and discarding PPE**. This training session addresses those issues and concerns.
- **CDC** has released guidance on how to **effectively** use (OPTIMIZE) your supply of PPE when there is a shortage or limit on the availability of PPE. ([See Part 3, beginning on page 5](#)). **Remember**, these guidance documents do **NOT** eliminate the use of PPE, they only provide information on **how to effectively use (optimize)** your supply of PPE.

Definitions

- ❑ **Hand Hygiene** is a *general* term that applies to hand washing with soap and water, or the use of a waterless alcohol-based antiseptic handrub (ABHR).
- ❑ **Personal Protective Equipment (PPE)** is *defined* as protective items or garments worn by caregivers for protection against infectious materials and diseases, and to prevent cross-transmission of infectious materials and/or communicable diseases among residents.

- Source: SOM Appendix PP, F880, Definitions.

Reasons Staff Give for NOT Using Personal Protective Equipment (PPE)

- ✓ It's uncomfortable.
- ✓ It doesn't fit me.
- ✓ Takes too long to put on and remove.
- ✓ Interferes with my ability to do the task.
- ✓ I forgot.
- ✓ Not available when needed.
- ✓ This task will only take a couple of minutes.
- ✓ Too busy / not enough time.
- ✓ Resident's needs takes priority.

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- **Suggestion:** Before reviewing the reasons discussed here, ask participants to discuss reasons why they may **not** always use PPE when providing resident care.
- Compare slide content with reasons participants gave.
- Discuss as you deem necessary or appropriate to address the importance of using personal protective equipment (PPE).
- If the availability of equipment and/or supplies is an issue, you should provide that information to Environmental Services, or other that has the authority to investigate and resolve such issues.
- **Other reasons you may want to discuss:**
 - Culture.
 - Religious or health grounds.
 - Didn't know about PPE.

Types of PPE and their Purpose

- ❑ **Gloves** – Protects the hands.
- ❑ **Gowns/Aprons** – Protects the skin and/or clothing.
- ❑ **Masks** – Protects the mouth and nose.
- ❑ **Respirators** – Protects respiratory tract from airborne infectious agents.
- ❑ **Goggles** – Protects the eyes.
- ❑ **Face Shields** – Protects the face, mouth, nose, and eyes.

- Inform participants that each of these items are discussed throughout this training session.
- As you review each PPE item, ask participants if they have any concerns or issues about the use or purpose of the PPE item.
- **Instructor Note:** It may be helpful to **review** and **discuss** CDC's guidance documents for **OPTIMIZING** the supply of PPE before moving to the next slide. *(See Part 3 – Support Documentation, beginning on page 5.)*
- **Remind** participants the these guidance documents do **NOT** eliminate how to put on, remove, or discard PPE. They only address **how** to **OPTIMIZE** their use when supplies are limited or exhausted.

Factors Influencing PPE Selection

When selecting PPE, you should consider these three (3) things:

1. Type of Exposure Anticipated.

- ✓ Splash or Spray versus Touch.
- ✓ Category of Isolation Precautions.

2. Durability and Appropriateness for the Task.

3. Fit.

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- **First** is the **type of anticipated exposure**. This is determined by the type of anticipated exposure, such as touch, splashes or sprays, or large volumes of blood or body fluids that might penetrate the clothing. PPE selection, in particular the combination of PPE, is also determined by the category of isolation precautions a resident is on.
- **Second**, and very much linked to the first, is the **durability** and **appropriateness** of the PPE for the task. This will affect, for example, whether a gown or apron is selected for PPE, or, if a gown is selected, whether it needs to be fluid resistant, fluid proof, or neither.
- **Third is fit.** (optional question) How many of you have seen someone trying to work in PPE that is too small or large? PPE must fit the individual user. The facility provides PPE in sizes appropriate for individual caregivers. You should report PPE issues to your immediate supervisor or charge nurse.
- (Segue to next slide) With the selection of PPE as background, let's now discuss **how** to select and **use** specific PPE.

Selecting Gloves

Gloves are the **most common** type of **PPE** used in healthcare settings. As you can see here, there are several things to **consider** when selecting the right glove for a specified purpose.

- Purpose** – resident care, environmental services, other.
- Glove material** – vinyl, latex, nitrile, other.
- Sterile** or nonsterile.
- One** or two pair.
- Single** use or reusable.

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- Most resident care activities require the use of a single pair of nonsterile gloves made of either latex, nitrile, or vinyl.
- However, because of allergy concerns, some facilities have eliminated or limited latex products, including gloves, and now use gloves made of nitrile or other material. Vinyl gloves are also frequently available and work well if there is limited resident contact. However, some gloves do not provide a snug fit on the hand, especially around the wrist, and therefore should not be used if extensive contact is likely.
- Gloves should fit the user's hands comfortably – they should not be too loose or too tight. They also should not tear or damage easily. Gloves are sometimes worn for several hours and need to stand up to the task.
- Who uses the other glove options? Sterile surgical gloves are worn by surgeons and other healthcare personnel who perform invasive resident procedures. During some surgical procedures, two pair of gloves may be worn.
- Environmental services personnel often wear reusable heavy-duty gloves made of latex or nitrile to work with caustic disinfectants when cleaning environmental surfaces. However, they sometimes use the same types of gloves used in resident care.

Use of Gloves

□ **Gloving is necessary:**

- **When** hands may become contaminated with blood, body fluids, excretions, or secretions, or **when** touching open wounds or mucous membranes, such as the mouth and respiratory tract.
- **When** touching items that are **likely** to be contaminated, such as urinary catheters and endotracheal tubes, and contaminated surfaces or objects.
- **When** resident care and the environment **restrictions** require it (e.g., isolation and contact precautions).

- Ask participants to provide instances when they use gloves. Do they align with the points addressed here and/or with your facility's policies?

Do's and Don'ts of Glove Use

- ❑ Work from “**clean to dirty.**”
- ❑ **Limit** opportunities for “**touch contamination.**” Protect yourself, others, and the environment:
 - **Don't** touch your face or adjust PPE with contaminated gloves.
 - **Don't** touch environmental surfaces except as necessary during resident care.
- ❑ **Change** gloves:
 - **During** use **if** torn and when heavily soiled (even during use on the same resident).
 - **After** use on each resident.
- ❑ **Discard** in appropriate receptacle:
 - Never wash or reuse disposable gloves.

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- **Gloves protect you against contact with infectious materials.** However, once contaminated, gloves can become a means for spreading infectious materials to yourself, other residents or environmental surfaces. Therefore, the way YOU use gloves can influence the risk of disease transmission in your workplace. **These are the most important do's and don'ts of glove use:**
- **Work from clean to dirty.** This is a basic principle of infection control. In this instance it refers to touching clean body sites or surfaces before you touch dirty or heavily contaminated areas.
- **Limit opportunities for “touch contamination.”** Protect yourself, others and environmental surfaces. How many times have you seen someone adjust their glasses, rub their nose or touch their face with gloves that have been in contact with a resident? This is one example of “touch contamination” that can potentially expose oneself to infectious agents. Think about environmental surfaces too and avoid unnecessarily touching them with contaminated gloves. Surfaces such as light switches, door and cabinet knobs can become contaminated if touched by soiled gloves.
- **Change gloves as needed.** If gloves become torn or heavily soiled and additional resident care tasks must be performed, then change the gloves before starting the next task. Always change gloves after use on each resident and discard them in the nearest appropriate receptacle. Resident care gloves should never be washed and used again. Washing gloves does not necessarily make them safe for reuse; it may not be possible to eliminate all microorganisms and washing can make the gloves more prone to tearing or leaking.

Selecting Gowns (or Aprons)

There are three (3) factors that influence the selection of a gown or apron as PPE.

- Purpose of Use.**
- Material:**
 - Natural or man-made.
 - Reusable or disposable.
 - Resistance to fluid penetration.
- Clean or Sterile.**

- **First is the purpose of use.** Isolation gowns are generally the preferred PPE for clothing, but aprons occasionally are used where limited contamination is anticipated. If contamination of the arms can be anticipated, a gown should be selected. Gowns should fully cover the torso, fit comfortably over the body, and have long sleeves that fit snugly at the wrist.
- **Second are the material properties of the gown.** Isolation gowns are made either of cotton or a spun synthetic material that dictate whether they can be laundered and reused or must be disposed. Cotton and spun synthetic isolation gowns vary in their degree of fluid resistance, another factor that must be considered in the selection of this garb. If fluid penetration is likely, a fluid resistant gown should be used.
- **The last factor concerns resident risks** and whether a clean, rather than sterile gown, can be used. Clean gowns are generally used for isolation. Sterile gowns are only necessary for performing invasive procedures, such as inserting a central line.

Selecting Face Protection

A **combination** of PPE types is available to protect **all** or **parts** of the **face** from contact with potentially infectious material. The **selection** of facial PPE is **determined** by the isolation precautions **required** for the resident and/or the nature of the resident contact.

- ❑ **Masks** – protects the nose and mouth.
 - Should fully cover the nose and mouth and prevent fluid penetration.
- ❑ **Goggles** – protects the eyes.
 - Should fit snugly over and around the eyes.
 - Personal glasses are NOT a substitute for goggles.
- ❑ **Face Shields** – protects the face, nose, mouth, and eyes.
 - Should cover the forehead, extend below chin and wrap around side of face.

- **Masks** should fully cover the nose and mouth and prevent fluid penetration.
- **Masks** should fit snugly over the nose and mouth. For this reason, masks that have a flexible nose piece and can be secured to the head with string ties or elastic are preferable.
- **Goggles** provide barrier protection for the eyes. Goggles should fit snugly over and around the eyes or personal prescription lenses. Goggles with antifog features will help maintain clarity of vision
- **Personal prescription lenses** do NOT provide optimal eye protection and should **not** be used as a substitute for goggles.
- **When skin protection**, in addition to mouth, nose, and eye protection, is needed or desired, for example, when irrigating a wound or suctioning copious secretions, a **face shield** can be used as a substitute to wearing a mask or goggles.
- The **face shield** should cover the forehead, extend below the chin, and wrap around the side of the face.

Respiratory Protection

- ❑ **Purpose** – protects from **inhalation** of infectious aerosols (e.g., Mycobacterium tuberculosis, COVID-19, etc.)
- ❑ **PPE types** for respiratory protection:
 - Particulate respirators.
 - Half- or full-face elastomeric respirators.
 - Powered air purifying respirators (PAPR).

- PPE also is used to protect caregivers from hazardous or infectious aerosols, such as Mycobacterium tuberculosis, COVID-19, etc. **Respirators** that filter the air before it is inhaled should be used for respiratory protection.
- The most **commonly** used respirators in healthcare settings are the **N95**, N99, or N100 particulate respirators.
- Like other PPE, the **selection** of a respirator type must consider the nature of the exposure and risk involved. For example, N95 particulate respirators might be worn by personnel entering the room of a resident with tuberculosis or COVID-19.
- **Regardless** of the respirator used, it is **imperative** that staff **follow** the manufacturer's recommendations for use, fitting, and cleaning for re-use or proper disposal.
- **Instructor Note:** Refer to the **OSHA** news release relative to the **Temporary Enforcement Guidance for Respirator Fit-Testing** located in *Part 3, beginning on page 19*.

Key Points About PPE

KEY points to remember about PPE use:

- ✓ Put on PPE **before** contact with the resident, generally **before** entering the room.
- ✓ **Use carefully** – don't spread contamination.
- ✓ **Remove** and **discard** carefully, either at the doorway or immediately outside the resident's room; remove **respirator outside the room**.
- ✓ **Immediately** perform **hand hygiene**.

- Put on PPE **before** you have any contact with the resident, generally before entering the room.
- Once you have PPE on, use it carefully to **prevent** spreading contamination.
- When you have **completed** your tasks, remove the PPE carefully and discard it in the receptacles provided.
- Immediately perform **hand hygiene** before going on to the next resident.
- **Suggestion:** Prior to moving to the next slide, select a participant to demonstrate the putting on and removing of PPE (e.g., gown, masks, goggles, gloves, etc.). Instruct the remaining participants to write down any incorrect procedures they may have observed.
- Inform participants that the remaining session will be devoted to the proper sequence of putting on and removing PPE.
- **OPTIONAL:** Provide participants with a copy of *Handout #2 – Sequence for Putting On PPE*.

Putting On a Gown

- Select appropriate type and size.
- Opening is in the back.
- Secure at neck and waist.
- If gown is too small, use two gowns.
- Gown #1 ties in **front**.
- Gown #2 ties in **back**.



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- To put on a gown, **first** select the appropriate type for the task and the right size for you.
- The opening of the gown should be in the back; secure the gown at the neck and waist.
- If the gown is too small to fully cover your torso, use two gowns.
- Put on the **first** gown with the opening in front and the **second** gown over the **first** with the opening in the back.
- **OPTIONAL:** Refer to [Handout #2](#) – *Sequence for Putting On PPE*.

Putting On a Mask

- Place over nose, mouth, and chin.
- Fit flexible nose piece over the nose bridge.
- Secure on head with ties or elastic.
- Adjust to fit.



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- Some masks are fastened with ties, others with elastic.
- **If the mask has ties**, place the mask over your mouth, nose and chin. Fit the flexible nose piece to the form of your nose bridge; tie the upper set at the back of your head and the lower set at the base of your neck.
- **If a mask has elastic head bands**, separate the two bands, hold the mask in one hand and the bands in the other. Place and hold the mask over your nose, mouth, and chin, then stretch the bands over your head and secure them comfortably as shown; one band on the upper back of your head, the other below the ears at the base of the neck.
- **Adjust the mask to fit.** Remember, you don't want to be touching it during use so take the few seconds needed to make sure it is secure on your head and fits snugly around your face so there are no gaps.
- **OPTIONAL:** Refer to [Handout #2](#) – *Sequence for Putting On PPE*.

Putting On a Disposable Respirator

- ❑ **Position** the respirator in your **hands** with the **nose piece** at your fingertips.
- ❑ **Cup** the respirator in hand allowing the headbands to hang **below** your hand. Hold the respirator **under** your chin with the **nose piece up**.
- ❑ The **top** strap goes **over** and rests at the top back of your head. The **bottom** strap is positioned **around** the neck and **below** the ear.
- ❑ **Place** your fingertips from **both** hands at the **top** of the **metal** nose clip (if present). Slide fingertips **down both** sides of the **metal** strip to **mold** the nose area to the shape of your nose.



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- **Wash** your hands thoroughly **BEFORE** putting on your respirator.
- If you have used a respirator before that fits you, use the same make, model and size.
- **Inspect** the respirator for damage. If your respirator appears damaged, **DO NOT USE IT**. Replace it with a new one.
- Do **not** allow facial hair, hair, jewelry, glasses, clothing, or anything else to **prevent** proper **placement** or come between your face and the respirator.
- **Follow the instructions that come with your respirator.**
- **OPTIONAL:** Refer to [Handout #4 – How to Properly Put on and Take off a Disposable Respirator](#).
- **Instructor Note:** Refer to the **OSHA** news release relative to the **Temporary Enforcement Guidance for Respirator Fit-Testing** located in *Part 3, beginning on page 19*.

Checking Your Seal on a Disposable Respirator

- ❑ Place both hands over the respirator. Take a quick **BREATH IN** to check whether the respirator seals tightly to the face.
- ❑ Place both hands completely over the respirator and **EXHALE**. If you feel leakage, there is **NOT** a proper seal.
- ❑ If air **leaks** around the **nose**, re-adjust the nose piece. If air leaks at the mask **edges**, re-adjust the straps along the sides of your head **until** a **proper seal is achieved**.
- ❑ If you **cannot** achieve a **proper seal** due to air leakage, **notify** your supervisor. A different size or model may be necessary.



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- **Wash** your hands thoroughly **BEFORE** putting on your respirator.
- If you have used a respirator before that fits you, use the same make, model and size.
- **Inspect** the respirator for damage. If your respirator appears damaged, **DO NOT USE IT**. Replace it with a new one.
- Do **not** allow facial hair, hair, jewelry, glasses, clothing, or anything else to **prevent** proper **placement** or come between your face and the respirator.
- **Follow the instructions that come with your respirator.**
- **OPTIONAL:** Refer to [Handout #4 – How to Properly Put on and Take off a Disposable Respirator](#).
- **Instructor Note:** Refer to the **OSHA** news release relative to the [Temporary Enforcement Guidance for Respirator Fit-Testing](#) located in *Part 3, beginning on page 19*.

Putting On Eye and Face Protection

- ❑ Position goggles over eyes and secure to the head using the ear-pieces or headband.



- ❑ Position face shield over face and secure on brow with headband.
- ❑ Adjust to fit comfortably.



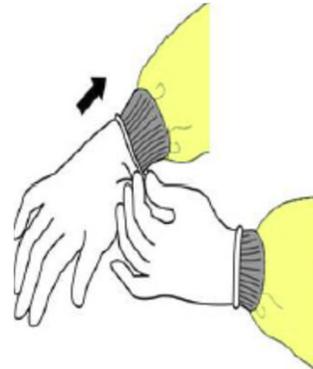
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- If eye protection is needed, **either** goggles or a face shield should be worn.
- Position either device over the face and/or eyes and secure to head using the attached ear-pieces or head band.
- **Adjust to fit comfortably.** Goggles should feel snug but not tight.
- **OPTIONAL:** Refer to [Handout #2](#) – *Sequence for Putting On PPE.*

Putting On Gloves

- Put on your gloves last.
- Select correct type and size.
- Insert hands into gloves.
- Extend gloves over isolation gown cuff.



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- The **last** item of PPE to be put on (donned) is a pair of gloves.
- Be sure to select the type of glove needed for the task in the size that best fits you. Insert each hand into the appropriate glove and adjust as needed for comfort and dexterity.
- If you are wearing an isolation gown, tuck the gown cuffs securely under each glove. This provides a continuous barrier protection for your skin.
- **OPTIONAL:** Refer to [Handout #2](#) – *Sequence for Putting On PPE*.

How to Safely Use PPE

- ❑ Keep gloved hands **away** from face.
- ❑ **Avoid** touching or adjusting other PPE.
- ❑ **Remove** gloves if they become torn; perform hand hygiene before putting on new gloves.
- ❑ **Limit** surfaces and items touched.

- In **addition** to wearing PPE, **you should also use safe work practices.**
- **Avoid** contaminating yourself by keeping your hands **away** from your face and not touching or adjusting PPE.
- **Also, remove** your gloves if they become torn and perform hand hygiene before putting on a new pair of gloves.
- You should also **avoid** spreading contamination **by** limiting surfaces and items touched with contaminated gloves.
- **OPTIONAL:** Refer to [Handout #2](#) – *Sequence for Putting On PPE*. See “Safe Practices” at bottom of page.

“Contaminated” and “Clean” Areas of PPE

To **remove** PPE **safely**, you must **first** be able to **identify** what sites are considered “**clean**” and what are “**contaminated.**”

❑ **Contaminated** – outside front:

- Areas of PPE that **have** or **are likely** to have been in contact with body sites, materials, or environmental surfaces where the infectious organism may reside.

❑ **Clean** – inside, outside back, ties on head and back:

- Areas of PPE that are **not** likely to have been in contact with the infectious organism.

- In general, the **outside** front and sleeves of the isolation gown and **outside** front of the goggles, mask, respirator and face shield are considered “**contaminated,**” **regardless** of whether there is **visible** soil. Also, the **outside** of the gloves are contaminated.
- The areas that are considered “**clean**” are the parts that will be **touched** when removing PPE. These include:
 - **inside** the **gloves**;
 - **inside** and **back** of the **gown**, including the ties;
 - and the ties, elastic, or ear-pieces of the **mask, goggles and face shield.**
- **Instructor Note:** Tell your participants that during the next several slides you will be discussing **important** information on **HOW to REMOVE** personal protective equipment (PPE).
- **OPTIONAL:** Provide participants with *Handout #3 – Sequence for Removing PPE.*

Sequence for Removing PPE

The sequence for removing PPE is intended to limit opportunities for self-contamination. Remove PPE in the following sequence:

- Gloves.
- Face Shield or Goggles.
- Gown.
- Mask or Respirator.

- The **gloves** are **considered** the **most contaminated** pieces of PPE and are therefore removed **first**.
- The **face shield or goggles** are **next** because they are **more** cumbersome and would interfere with removal of other PPE.
- The **gown** is **third** in the sequence, followed by the **mask** or **respirator**.
- **OPTIONAL:** Refer to [Handout #3](#) – *Sequence for Removing PPE*.

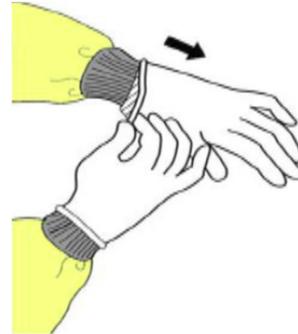
Where to Remove PPE

- ❑ At doorway, before leaving the resident room or in the anteroom.
- ❑ Remove respirator **outside** room, after door has been closed.
- ❑ Be sure that hand hygiene facilities and trash receptacles are available at the point needed, e.g., sink or alcohol-based hand rub.

- **If only gloves are worn** as PPE, it is safe to remove and discard them in the resident's room. Place in designated receptacle.
- When a **gown or full PPE is worn**, PPE should be removed at the **doorway** or in an **anteroom**.
- **Respirators** should **always** be removed **outside** the resident's room, **after the door is closed**.
- **Hand hygiene** should be performed after **all** PPE is **removed**.
- **OPTIONAL**: Refer to [Handout #3](#) – *Sequence for Removing PPE*.

Removing the 1st Glove

- ❑ Grasp **OUTSIDE** edge near the wrist.
- ❑ Peel **AWAY** from hand, turning glove inside-out.
- ❑ Hold in **opposite** gloved hand.



- Using one gloved hand, grasp the outside of the opposite glove near the wrist.
- Pull and peel the glove away from the hand.
- The glove should now be turned inside-out, with the contaminated side now on the inside.
- Hold the removed glove in the opposite gloved hand.
- **OPTIONAL:** Refer to [Handout #3](#) – *Sequence for Removing PPE*.

Removing the 2nd Glove

- ❑ Slide **UNGLOVED** finger under the wrist of the remaining glove.
- ❑ Peel **AWAY** from inside, creating a bag for both gloves.
- ❑ Discard in appropriate waste receptacle.



- Slide one or two fingers of the ungloved hand under the wrist of the remaining glove.
- Peel glove off from the inside, creating a bag for both gloves.
- Discard in appropriate waste receptacle.
- **OPTIONAL:** Refer to [Handout #3](#) – *Sequence for Removing PPE*.

Removing Goggles or Face Shield

- ❑ Grasp ear or head pieces with your **ungloved** hands.
- ❑ Lift **AWAY** from your face.
- ❑ Place in **designated** receptacle for reprocessing or disposal.



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- Using ungloved hands, grasp the “clean” ear or head pieces and lift **away** from face.
- If goggle or face shield are reusable, place them in a designated receptacle for subsequent reprocessing. Otherwise, discard them in the waste receptacle.
- **OPTIONAL:** Refer to [Handout #3](#) – *Sequence for Removing PPE*.

Removing the Isolation Gown

- ❑ **Unfasten** ties.
- ❑ Peel gown **AWAY** from the neck and shoulder.
- ❑ **Turn** contaminated **OUTSIDE** toward the **INSIDE**.
- ❑ **Fold** or **roll** into a bundle.
- ❑ Discard in **appropriate** waste receptacle.



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- Unfasten the gown ties with the **ungloved** hands.
- Slip hands underneath the gown at the neck and shoulder, peel away from the shoulders.
- Slip the fingers of one hand under the cuff of the opposite arm. Pull the hand into the sleeve, grasping the gown from inside.
- Reach across and push the sleeve off the opposite arm.
- Fold the gown towards the inside and fold or roll into a bundle. (Only the “**clean**” part of the gown should be visible.)
- Discard into waste or linen container, as appropriate.
- **OPTIONAL:** Refer to [Handout #3](#) – *Sequence for Removing PPE*.

Removing a Mask

- ❑ Untie the **bottom** string, then the **top** string.
- ❑ If elastic bands, **remove** the **bottom** band **first** then remove the **top** band.
- ❑ Remove **from** the face.
- ❑ Do **NOT** touch the **front** of the mask as it is considered **contaminated**.
- ❑ Discard in **appropriate** waste receptacle.



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- The front of the mask is considered **contaminated** and should **not** be touched.
- **Remove** by handling only the ties or elastic bands starting with the **bottom then top** tie or band.
- Lift the mask **away** from the face and discard it into the designated waste receptacle.
- **OPTIONAL:** Refer to [Handout #3](#) – *Sequence for Removing PPE*.

Removing a Particulate Respirator

- ❑ Do **NOT** touch the **front** of the mask as it is considered **contaminated**.
- ❑ Lift the **BOTTOM** elastic **over** your head first.
- ❑ Then **LIFT** off the **TOP** elastic.
- ❑ Discard in **appropriate** waste receptacle.



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- The **bottom** elastic should **first** be lifted **over** the head. **Then** remove the **top** elastic.
- This should be done **slowly** to prevent the respirator from “**snapping**” off the face.
- Do **NOT** touch the **front** of the mask as it is considered **contaminated**.
- Remove the Respirator Mask **outside** the resident’s room, **after** the door is **closed**.
- Wash your hands.
- **OPTIONAL:** Refer to [Handout #4](#) – *How to Properly Put On and Take Off a Disposable Respirator*.
- **Instructor Note:** Refer to the **OSHA** news release relative to the **Temporary Enforcement Guidance for Respirator Fit-Testing** located in *Part 3, beginning on page 19*.

Hand Hygiene

- ❑ Perform hand hygiene **immediately** after removing PPE.
 - If hands become **visibly** contaminated **during** PPE removal, wash hands **before** continuing to remove PPE.
- ❑ Wash hands with soap and water or use an alcohol-based hand rub.
- ❑ Ensure that hand hygiene facilities are available at the point needed, e.g., sink or alcohol-based hand rub.

- Hand hygiene is the **cornerstone** of **preventing** infection transmission.
- You should perform hand hygiene **immediately** after removing PPE.
- If your hands become **visibly** contaminated during PPE removal, wash hands **before** continuing to remove PPE.
- Wash your hands **thoroughly** with soap and warm water or, if hands are **not** visibly contaminated, **use** an alcohol-based hand rub.
- **Instructor Note:** Tell participants that you will now review some instances that require the use of PPE and participants will be asked to discuss which PPE they would select for each scenario and why.

What Type of PPE Would YOU Wear in These Scenarios?

1. Giving a bed bath?
2. Suctioning oral secretions?
3. Transporting a resident in a wheel-chair?
4. Responding to an emergency where blood is spurting?
5. Drawing blood from a vein?
6. Cleaning an incontinent resident with diarrhea?
7. Irrigating a wound?
8. Taking vital signs?

- Listed here are several resident care activities that could indicate a need to wear PPE. **What PPE would YOU wear for the following?**
 1. Giving a bed bath? (generally none).
 2. Suctioning oral secretions? (gloves and mask/goggles or a face shield) (Respondents may correctly note that this may depend on whether open or closed suction is being used).
 3. Transporting a resident in a wheelchair? (generally none).
 4. Responding to an emergency where blood is spurting? (gloves, fluid-resistant gown, mask/goggles or a face shield).
 5. Drawing blood from a vein? (gloves).
 6. Cleaning an incontinent resident with diarrhea? (gloves and generally a gown).
 7. Irrigating a wound? (gloves, gown, and mask/goggles or a face shield).
 8. Taking vital signs? (generally none).
- **Instructor Note:** Encourage discussion of how caregivers decide for themselves which PPE will be worn. Do they over- or under-protect themselves?. Discuss responses as appropriate to ensure participants understand the importance of the use of PPE.

Question and Answer Session

- Encourage participants to ask questions to ensure they have a working understanding of how and when to use personal protective equipment (PPE).
- **OPTIONAL:** Using **Handout #5**, conduct a *Personal Protective Equipment (PPE) Competency Validation Checklist* for each participant to determine if they can successfully demonstrate the putting on, taking off, and disposal of PPE.
- Using **Handout #6**, conduct a Competency Evaluation Exam for each participants to determine their knowledge and competency level concerning the use of PPE. (See below for Exam Answer Key)
- Using the results of the **Validation Checklist** and the **Competency Evaluation Exam**, modify your Personal Protective Equipment (PPE) training program as necessary to address any identified issues or concerns.
- **Instructor Note:** Remind participants to sign the *Record of Attendance Form*. Be sure to complete recordkeeping documentation. ([See Part 3](#))
- **Exam Answer Key and Slide Location Where the Answer can be Found:**
- **1=T** (Slide #6); **2=T** (Slide #9); **3=T** (Slide #10); **4=F** (Slide #11); **5=F** (Slide #13); **6=F** (Slide #14); **7=T** (Slide #17); **8=F** (Slide #19); **9=T** (Slide #20); **10=F** (Slides #22); **11=T** (Slide #23); **12=F** (Slide #23); **13=T** (Slide #29); **14=F** (Slide #30); **15=T** (Slide #30)

Infection Control

F880

Personal Protective Equipment

Part 2

In-Service Training Program

Participant Handouts

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Personal Protective Equipment (PPE) – In-Service Training Program
Participant Handouts – Overview

This section contains handouts for staff participating in the Personal Protective Equipment In-Service Training Session.

Handout #1 is a duplicate of the instructor’s presentation materials formatted for participant note taking. If you modify the instructor’s presentation notes, be sure to incorporate those changes into Handout #1.

Handout #2 is a copy of CDC’s *Sequence for Putting On Personal Protective Equipment (PPE)*. Use this handout when reviewing information outlined on **Slides 13** through **18**.

Handout #3 is a copy of CDC’s *Sequence for Removing Personal Protective Equipment (PPE)*. Use this handout when reviewing information outlined on **Slides 19** through **26**.

Handout #4 is a copy of CDC’s *How to Properly Put on and Take off a Disposable Respirator*. Use this handout when reviewing information outlined on **Slides 6, 7, and 29**.

Handout #5 is a *Personal Protective Equipment (PPE) Competency Validation Checklist*. Use this handout to conduct PPE validations for each staff member.

Handout #6 is a *Competency Evaluation Exam*. Use this handout to evaluate each staff member's knowledge and competency level concerning federal guidelines and facility policies governing the use of personal protective equipment (PPE).

Personal Protective Equipment

An In-Service Training Program

Instructor Presentation & Notes

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Session Objectives

Upon completion of this training session, you should be able to:

- Define **personal protective equipment (PPE)**.
- Discuss **reasons** PPE is **NOT** used.
- Identify the **types** of PPE and their purpose.
- Discuss three **key factors** to use when **selecting** PPE.
- Discuss the **process** for **selecting** PPE.
- Discuss **key points** about PPE.
- Review the **correct sequence** of putting on and removing PPE.
- Review and discuss **scenarios** concerning the **selection** of PPE.

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2

Definitions

- **Hand Hygiene** is a **general** term that applies to hand washing with soap and water, or the use of a waterless alcohol-based antiseptic handrub (ABHR).
- **Personal Protective Equipment (PPE)** is **defined** as protective items or garments worn by caregivers for protection against infectious materials and diseases, and to **prevent** cross-transmission of infectious materials and/or communicable diseases among residents.

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3

Reasons Staff Give for NOT Using Personal Protective Equipment (PPE)

- ✓ It's uncomfortable.
- ✓ It doesn't fit me.
- ✓ Takes too long to put on and remove.
- ✓ Interferes with my ability to do the task.
- ✓ I forgot.
- ✓ Not available when needed.
- ✓ This task will only take a couple of minutes.
- ✓ Too busy / not enough time.
- ✓ Resident's needs takes priority.

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Types of PPE and their Purpose

- Gloves** – Protects the hands.
- Gowns/Aprons** – Protects the skin and/or clothing.
- Masks** – Protects the mouth and nose.
- Respirators** – Protects respiratory tract from airborne infectious agents.
- Goggles** – Protects the eyes.
- Face Shields** – Protects the face, mouth, nose, and eyes.

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5

Factors Influencing PPE Selection

When selecting PPE, you should consider these three (3) things:

- 1. Type of Exposure Anticipated.**
 - ✓ Splash or Spray versus Touch.
 - ✓ Category of Isolation Precautions.
- 2. Durability and Appropriateness for the Task.**
- 3. Fit.**

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Selecting Gloves

Gloves are the **most common** type of **PPE** used in healthcare settings. As you can see here, there are several things to **consider** when selecting the right glove for a specified purpose.

- Purpose** – resident care, environmental services, other.
- Glove material** – vinyl, latex, nitrile, other.
- Sterile** or nonsterile.
- One** or two pair.
- Single** use or reusable.

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Use of Gloves

Gloving is necessary:

- **When** hands may become contaminated with blood, body fluids, excretions, or secretions, or **when** touching open wounds or mucous membranes, such as the mouth and respiratory tract.
- **When** touching items that are **likely** to be contaminated, such as urinary catheters and endotracheal tubes, and contaminated surfaces or objects.
- **When** resident care and the environment **restrictions** require it (e.g., isolation and contact precautions).

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Do's and Don'ts of Glove Use

- Work from "**clean to dirty**."
- Limit** opportunities for "**touch contamination**." Protect yourself, others, and the environment.
 - **Don't** touch your face or adjust PPE with contaminated gloves.
 - **Don't** touch environmental surfaces except as necessary during resident care.
- Change** gloves:
 - **During** use **if** torn and when heavily soiled (even during use on the same resident).
 - **After** use on each resident.
- Discard** in appropriate receptacle:
 - Never wash or reuse disposable gloves.

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Selecting Gowns (or Aprons)

There are three (3) factors that influence the selection of a gown or apron as PPE.

- ❑ **Purpose of Use.**
- ❑ **Material:**
 - Natural or man-made.
 - Reusable or disposable.
 - Resistance to fluid penetration.
- ❑ **Clean or Sterile.**

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Selecting Face Protection

A **combination** of PPE types is available to protect **all or parts** of the **face** from contact with potentially infectious material. The **selection** of facial PPE is **determined** by the isolation precautions **required** for the resident and/or the nature of the resident contact.

- ❑ **Masks** – protects the nose and mouth.
 - Should fully cover the nose and mouth and prevent fluid penetration.
- ❑ **Goggles** – protects the eyes.
 - Should fit snugly over and around the eyes.
 - Personal glasses are NOT a substitute for goggles.
- ❑ **Face Shields** – protects the face, nose, mouth, and eyes.
 - Should cover the forehead, extend below chin and wrap around side of face.

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Respiratory Protection

- ❑ **Purpose** – protects from **inhalation** of infectious aerosols (e.g., Mycobacterium tuberculosis, COVID-19, etc.)
- ❑ **PPE types** for respiratory protection:
 - Particulate respirators.
 - Half- or full-face elastomeric respirators.
 - Powered air purifying respirators (PAPR).

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Key Points About PPE

KEY points to remember about PPE use:

- ✓ Put on PPE **before** contact with the resident, generally **before** entering the room.
- ✓ **Use carefully** – don't spread contamination.
- ✓ **Remove** and **discard carefully**, either at the doorway or immediately outside the resident's room; remove **respirator outside the room**.
- ✓ **Immediately** perform **hand hygiene**.

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Putting On a Gown

- Select appropriate type and size.
- Opening is in the back.
- Secure at neck and waist.
- If gown is too small, use two gowns.
- Gown #1 ties in **front**.
- Gown #2 ties in **back**.



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Putting On a Mask

- Place over nose, mouth, and chin.
- Fit flexible nose piece over the nose bridge.
- Secure on head with ties or elastic.
- Adjust to fit.



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Putting On a Disposable Respirator

- ❑ **Position** the respirator in your **hands** with the **nose piece** at your fingertips.
- ❑ **Cup** the respirator in hand allowing the headbands to hang **below** your hand. Hold the respirator **under** your chin with the **nose piece up**.
- ❑ The **top** strap goes **over** and rests at the top back of your head. The **bottom** strap is positioned **around** the neck and **below** the ear.
- ❑ **Place** your fingertips from **both** hands at the **top** of the **metal** nose clip (if present). Slide fingertips **down both** sides of the **metal** strip to **mold** the nose area to the shape of your nose.



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Checking Your Seal on a Disposable Respirator

- ❑ Place both hands over the respirator. Take a quick **BREATH IN** to check whether the respirator seals tightly to the face.
- ❑ Place both hands completely over the respirator and **EXHALE**. If you feel leakage, there is **NOT** a proper seal.
- ❑ If air **leaks** around the **nose**, re-adjust the nose piece. If air leaks at the mask **edges**, re-adjust the straps along the sides of your head **until** a **proper** seal is **achieved**.
- ❑ If you **cannot** achieve a **proper** seal due to air leakage, **notify** your supervisor. A different size or model may be necessary.



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Putting On Eye and Face Protection

- ❑ Position goggles over eyes and secure to the head using the ear-pieces or headband.
- ❑ Position face shield over face and secure on brow with headband.
- ❑ Adjust to fit comfortably.



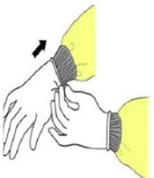
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18

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Putting On Gloves

- Put on your gloves last.
- Select correct type and size.
- Insert hands into gloves.
- Extend gloves over isolation gown cuff.



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How to Safely Use PPE

- Keep gloved hands **away** from face.
- Avoid** touching or adjusting other PPE.
- Remove** gloves if they become torn; perform hand hygiene before putting on new gloves.
- Limit** surfaces and items touched.

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“Contaminated” and “Clean” Areas of PPE

To **remove** PPE **safely**, you must **first** be able to **identify** what sites are considered “**clean**” and what are “**contaminated**.”

- Contaminated** – outside front:
 - Areas of PPE that **have** or **are likely** to have been in contact with body sites, materials, or environmental surfaces where the infectious organism may reside.
- Clean** – inside, outside back, ties on head and back:
 - Areas of PPE that are **not** likely to have been in contact with the infectious organism.

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Sequence for Removing PPE

The sequence for removing PPE is intended to limit opportunities for self-contamination. Remove PPE in the following sequence:

- Gloves.
- Face Shield or Goggles.
- Gown.
- Mask or Respirator.

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Where to Remove PPE

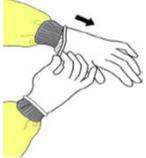
- At doorway, before leaving the resident room or in the anteroom.
- Remove respirator **outside** room, after door has been closed.
- Be sure that hand hygiene facilities and trash receptacles are available at the point needed, e.g., sink or alcohol-based hand rub.

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Removing the 1st Glove

- Grasp **OUTSIDE** edge near the wrist.
- Peel **AWAY** from hand, turning glove inside-out.
- Hold in **opposite** gloved hand.

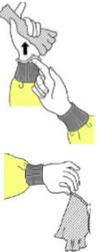


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Removing the 2nd Glove

- ❑ Slide **UNGLOVED** finger under the wrist of the remaining glove.
- ❑ Peel **AWAY** from inside, creating a bag for both gloves.
- ❑ Discard in appropriate waste receptacle.



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Removing Goggles or Face Shield

- ❑ Grasp ear or head pieces with your **ungloved** hands.
- ❑ Lift **AWAY** from your face.
- ❑ Place in **designated** receptacle for reprocessing or disposal.



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Removing the Isolation Gown

- ❑ **Unfasten** ties.
- ❑ Peel gown **AWAY** from the neck and shoulder.
- ❑ **Turn** contaminated **OUTSIDE toward** the **INSIDE**.
- ❑ **Fold** or **roll** into a bundle.
- ❑ Discard in **appropriate** waste receptacle.



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Removing a Mask

- ❑ Untie the **bottom** string, then the **top** string.
- ❑ If elastic bands, **remove the bottom band first** then remove the **top** band.
- ❑ Remove **from** the face.
- ❑ Do **NOT** touch the **front** of the mask as it is considered **contaminated**.
- ❑ Discard in **appropriate** waste receptacle.



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Removing a Particulate Respirator

- ❑ Do **NOT** touch the **front** of the mask as it is considered **contaminated**.
- ❑ Lift the **BOTTOM** elastic **over** your head first.
- ❑ Then **LIFT** off the **TOP** elastic.
- ❑ Discard in **appropriate** waste receptacle.



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Hand Hygiene

- ❑ Perform hand hygiene **immediately after** removing PPE.
 - If hands become **visibly** contaminated **during** PPE removal, wash hands **before** continuing to remove PPE.
- ❑ Wash hands with soap and water or use an alcohol-based hand rub.
- ❑ Ensure that hand hygiene facilities are available at the point needed, e.g., sink or alcohol-based hand rub.

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Handout #1 – Session Outline

What Type of PPE Would YOU Wear in These Scenarios?

1. Giving a bed bath?
2. Suctioning oral secretions?
3. Transporting a resident in a wheel-chair?
4. Responding to an emergency where blood is spurting?
5. Drawing blood from a vein?
6. Cleaning an incontinent resident with diarrhea?
7. Irrigating a wound?
8. Taking vital signs?

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Question and Answer Session

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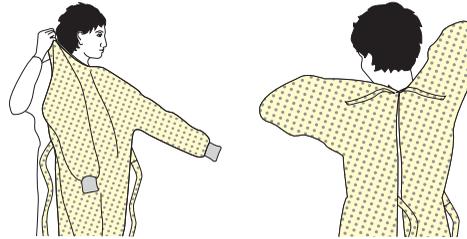
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SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required; e.g., Standard and Contact, Droplet or Airborne Infection Isolation.

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



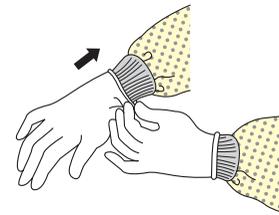
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



SECUENCIA PARA PONERSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)

El tipo de PPE que se debe utilizar depende del nivel de precaución que sea necesario; por ejemplo, equipo Estándar y de Contacto o de Aislamiento de infecciones transportadas por gotas o por aire.

1. BATA

- Cubra con la bata todo el torso desde el cuello hasta las rodillas, los brazos hasta la muñeca y dóblela alrededor de la espalda
- Átesela por detrás a la altura del cuello y la cintura

2. MÁSCARA O RESPIRADOR

- Asegúrese los cordones o la banda elástica en la mitad de la cabeza y en el cuello
- Ajustese la banda flexible en el puente de la nariz
- Acomódesela en la cara y por debajo del mentón
- Verifique el ajuste del respirador

3. GAFAS PROTECTORAS O CARETAS

- Colóquesela sobre la cara y los ojos y ajústela

4. GUANTES

- Extienda los guantes para que cubran la parte del puño en la bata de aislamiento



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

UTILICE PRÁCTICAS DE TRABAJO SEGURAS PARA PROTEGERSE USTED
MISMO Y LIMITAR LA PROPAGACIÓN DE LA CONTAMINACIÓN

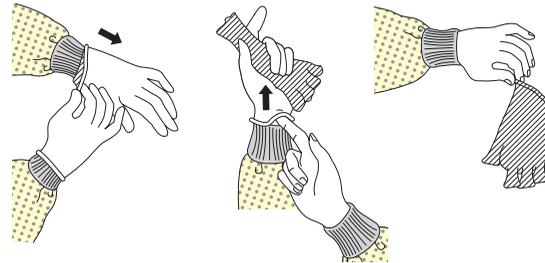
- Mantenga las manos alejadas de la cara
- Limite el contacto con superficies
- Cambie los guantes si se rompen o están demasiado contaminados
- Realice la higiene de las manos

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.

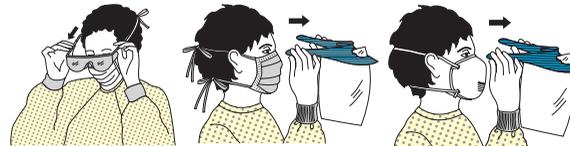
1. GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glovet
- Discard gloves in waste container



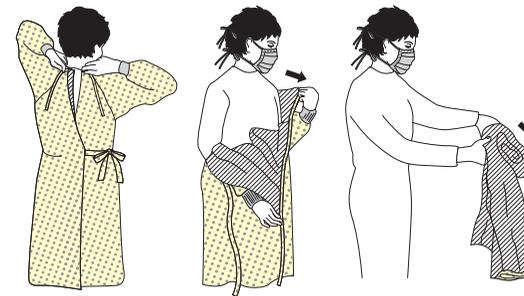
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated!
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container



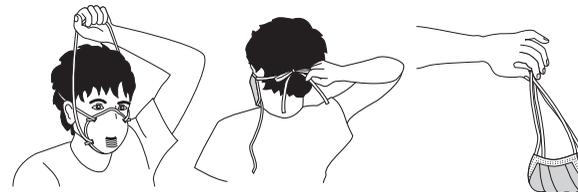
3. GOWN

- 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



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — **DO NOT TOUCH!**
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container



SECUENCIA PARA QUITARSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)

Con la excepción del respirador, quítese el PPE en la entrada de la puerta o en la antesala. Quítese el respirador después de salir de la habitación del paciente y de cerrar la puerta.

1. GUANTES

- ¡El exterior de los guantes está contaminado!
- Agarre la parte exterior del guante con la mano opuesta en la que todavía tiene puesto el guante y quíteselo
- Sostenga el guante que se quitó con la mano enguantada
- Deslice los dedos de la mano sin guante por debajo del otro guante que no se ha quitado todavía a la altura de la muñeca
- Quítese el guante de manera que acabe cubriendo el primer guante
- Arroje los guantes en el recipiente de deshechos

2. GAFAS PROTECTORAS O CARETA

- ¡El exterior de las gafas protectoras o de la careta está contaminado!
- Para quitárselas, tómelas por la parte de la banda de la cabeza o de las piezas de las orejas
- Colóquelas en el recipiente designado para reprocessar materiales o de materiales de deshecho

3. BATA

- ¡La parte delantera de la bata y las mangas están contaminadas!
- Desate los cordones
- Tocando solamente el interior de la bata, pásela por encima del cuello y de los hombros
- Voltee la bata al revés
- Dóblela o enróllela y deséchela

4. MÁSCARA O RESPIRADOR

- La parte delantera de la máscara o respirador está contaminada — **¡NO LA TOQUE!**
- Primero agarre la parte de abajo, luego los cordones o banda elástica de arriba y por último quítese la máscara o respirador
- Arrójela en el recipiente de deshechos



PERFORM HAND HYGIENE IMMEDIATELY AFTER REMOVING ALL PPE

EFFECTÚE LA HIGIENE DE LAS MANOS INMEDIATAMENTE DESPUÉS DE QUITARSE CUALQUIER EQUIPO DE PROTECCIÓN PERSONAL

Handout #4

How to Properly Put on and Take off a Disposable Respirator

WASH YOUR HANDS THOROUGHLY BEFORE PUTTING ON AND TAKING OFF THE RESPIRATOR.

If you have used a respirator before that fit you, use the same make, model and size.

Inspect the respirator for damage. If your respirator appears damaged, DO NOT USE IT. Replace it with a new one.

Do not allow facial hair, hair, jewelry, glasses, clothing, or anything else to prevent proper placement or come between your face and the respirator.

Follow the instructions that come with your respirator.

Putting On The Respirator



Position the respirator in your hands with the nose piece at your fingertips.



Cup the respirator in your hand allowing the headbands to hang below your hand. Hold the respirator under your chin with the nosepiece up.



The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears. Do not crisscross straps.



Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.

Checking Your Seal



Place both hands over the respirator, take a quick breath in to check whether the respirator seals tightly to the face.



Place both hands completely over the respirator and exhale. If you feel leakage, there is not a proper seal.



If air leaks around the nose, readjust the nosepiece as described. If air leaks at the mask edges, re-adjust the straps along the sides of your head until a proper seal is achieved.



If you cannot achieve a proper seal due to air leakage, ask for help or try a different size or model.

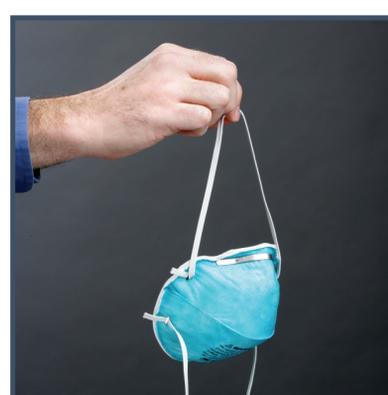
Removing Your Respirator



DO NOT TOUCH the front of the respirator! It may be contaminated!



Remove by pulling the bottom strap over back of head, followed by the top strap, without touching the respirator.



Discard in waste container.
WASH YOUR HANDS!



CS 207843
DHHS (NIOSH) Publication No. 2010-133

Handout #5

Personal Protective Equipment (PPE) Competency Validation Checklist

Employee Name:	Job Title:
Shift: <input type="checkbox"/> 1 st <input type="checkbox"/> 2 nd <input type="checkbox"/> 3 rd	Employment Type: <input type="checkbox"/> Staff <input type="checkbox"/> Consultant <input type="checkbox"/> Contract <input type="checkbox"/> Volunteer
Evaluator (INITIAL):	Evaluator (REPEAT):

Putting ON PPE	INITIAL Demonstration Successful		Date	REPEAT Demonstration Successful		Date
	Yes	No		Yes	No	
1. Performed Hand Hygiene:						
2. Putting on Gown:						
Fully covered torso from neck to knees, arms to end of wrists.						
Tied/fastened in back of neck and waist.						
3. Putting on Mask/Respirator:						
Secured ties/elastic bands at middle of head and neck.						
Fit flexible band to nose bridge.						
Fit snug to face and below chin. (Fit-checked respirator as applicable).						
4. Putting on Goggles or Face Shield:						
Placed over face and eyes; adjusted to fit.						
5. Putting on Gloves:						
Extended to cover wrist of gown.						
Removing PPE						
1. Removing Gloves:						
Grasped outside of glove with opposite gloved hand. Peeled off.						
Held removed glove in gloved hand.						
Slid fingers of ungloved hand under remaining glove at wrist.						
Peeled glove off over FIRST glove.						
Discarded gloves in waste container.						
2. Removing Goggles or Face Shield:						
Handled by head band or earpieces.						
Discarded in designated receptacle if re-processed or in waste container.						
3. Removing Gown:						
Unfasted ties/fastener.						
Pulled away from neck and shoulders, touching inside of gown only.						
Turned gown inside out.						
Folded or rolled into bundle and discarded.						
4. Removing Mask/Respirator:						
NOTE: If respirator worn, removed AFTER exiting room/closed room door.						
Grasped bottom, then top ties or elastic and removed.						
Discarded in waste container.						
5. Performed Hand Hygiene.						

Signature – Employee:		Date:
Signature – Evaluator:		Date:
Comments:		

Handout #6

F880

Infection Control – Personal Protective Equipment

Competency Evaluation Exam

The **primary purpose** of this evaluation is to measure your knowledge and competency level concerning the use of personal protective equipment.

Staff Member Name:	Date:
Assigned Shift: [] 1 st [] 2 nd [] 3 rd	Position/Department:
Work Location:	
Employment Type: [] Facility Staff [] Contract Staff [] Consultant [] Other:	

Answer	Mark each Statement True (T) or False (F)
T = True F = False	
	1. An important factor in selecting PPE is to be sure the PPE you are wearing fits properly (e.g., it is not too large or too small)
	2. The way you use gloves can influence the risk of disease transmission in the your workplace.
	3. When selecting an isolation gown for use when providing care to a contaminated resident, you should be sure the gown covers your torso, fit comfortably over the body, and have long sleeves that fit snugly at the wrist.
	4. Eyeglasses are permitted to be used instead of goggles IF there is limited contact with the resident.
	5. A key point to remember about the use of PPE is to put it on and remove it in the resident's room.
	6. When using an isolation gown that is too small, you should use two (2) gowns and tie both of them in the front to be sure your torso is fully protected from potential splashes of contaminated fluids.
	7. When putting on a disposable respirator mask, you should always check the fit to be sure there is no air leaks around the mask.
	8. It is best to put on your gloves <i>first</i> to be sure you are protected from potentially contaminated supplies.
	9. You should NOT touch your face once you have put on gloves.
	10. Since gloves are considered the most contaminated pieces of PPE, you should always remove the gloves last.
	11. You should always remove PPE at the doorway before leaving the resident's room.
	12. The respirator is the LAST article of PPE to remove just before leaving the resident's room.
	13. When removing a respirator mask, you should avoid touching the front of the mask as it is considered contaminated.
	14. After providing care to a resident in isolation, it is best to wash your hands with hand sanitizer if they are visibly soiled.
	15. Hand hygiene is the cornerstone of preventing the spread of infectious diseases.

Infection Control

F880 Personal Protective Equipment

Part 3 Inservice Training Program Support Documentation

Provided Courtesy of



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F880
Infection Control – Personal Protective Equipment

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Record of In-Service Training Session

F880 – Personal Protective Equipment (PPE)

Date of Training Session: _____

Time Started: _____ (am / pm)

Instructor(s): _____

Personnel Attending: See Attached “*Session Attendance Record*”

Purpose of Training Session: To provide staff with information relative to the regulatory process and our facility specific policies governing the facility’s use of personal protective equipment (PPE).

Method of Presentation – Provide a brief summary of how the session was presented (e.g., lecture, self-study, PowerPoint presentation, handouts provided, competency exams, etc.).

Participant Participation – Provide a brief summary of how participants participated. (e.g., Q & A session, review of competency validation, corrective action/improvement plans, review of regulatory resources, facility policies, etc.):

Critical Analysis (List any recommendations/suggestions you believe would be beneficial for future presentation of this topic):

Comparative Analysis (Was there an improvement in staff’s knowledge of the regulatory requirements governing the facility’s use of personal protective equipment (PPE) after completing the training session? If yes, what process was used to measure staff’s improvement? (e.g., improvement in exam scores, implementation of corrective action/performance improvement plans, competency validation checklist, etc.):

Time Adjourned: _____ (am / pm)

Signature of Instructor(s): _____

In-Service Training Session – Participant Evaluation Form

F880 – Personal Protective Equipment (PPE)

Date:		Instructor(s):	
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Please indicate with a check (✓) mark your level of agreement with the following statements:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The objectives of the training session were clearly defined.					
2. The instructor(s) were knowledgeable about the topics.					
3. Attendee participation and interaction were encouraged.					
4. The topics covered were relevant.					
5. The content was organized and easy to follow.					
6. The materials (handouts) were helpful.					
7. The instructor(s) were well prepared.					
8. The training objectives were met.					
9. The time allotted for the session was sufficient.					
10. The meeting room was clean and comfortable.					
11. The training session will be useful in my work.					

What did you like MOST about this training session?

What did you like LEAST about this training session?

What aspects of the training session could be improved?

What information would you like to see added?

Please share additional comments or information here:

CERTIFICATE of COMPLETION

THIS ACKNOWLEDGES THAT

ATTENDED AND SUCCESSFULLY COMPLETED OUR FACILITY'S

F880

Personal Protective Equipment (PPE)

In-Service Training Program

On the ____ day of _____, 20____



Signature/Title - Instructor

Strategies for Optimizing the Supply of Eye Protection

Source: CDC COVID-19 Website

March 18, 2020

Audience: These considerations are intended for use by federal, state, and local public health officials; leaders in occupational health services and infection prevention and control programs; and other leaders in healthcare settings who are responsible for developing and implementing policies and procedures for preventing pathogen transmission in healthcare settings.

Purpose: This document offers a series of strategies or options to optimize supplies of eye protection in healthcare settings when there is limited supply. It does not address other aspects of pandemic planning; for those, healthcare facilities can refer to [COVID-19 preparedness plans](#).

Surge capacity refers to the ability to manage a sudden, unexpected increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of eye protection during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve eye protection supplies along the continuum of care.

- **Conventional capacity:** measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and personal protective equipment (PPE) controls should already be implemented in general infection prevention and control plans in healthcare settings.
- **Contingency capacity:** measures may change daily standard practices but may not have any significant impact on the care delivered to the patient or the safety of healthcare personnel (HCP). These practices may be used temporarily during periods of expected eye protection shortages.
- **Crisis capacity:** strategies that are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known eye protection shortages.

The following contingency and crisis strategies are based upon these assumptions:

1. Facilities understand their eye protection inventory and supply chain
2. Facilities understand their eye protection utilization rate
3. Facilities are in communication with local healthcare coalitions, federal, state, and local public health partners (e.g., public health emergency preparedness and response staff) regarding identification of additional supplies
4. Facilities have already implemented other [engineering and administrative control measures](#) including:
 - Reducing the number of patients going to the hospital or outpatient settings
 - Excluding HCP not essential for patient care from entering their care area
 - Reducing face-to-face HCP encounters with patients
 - Excluding visitors to patients with confirmed or suspected COVID-19
 - Cohorting patients and HCP
 - Maximizing use of telemedicine
5. Facilities have provided HCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

Strategies for Optimizing the Supply of Eye Protection

Source: CDC COVID-19 Website

March 18, 2020

Conventional Capacity Strategies

Use eye protection according to product labeling and local, state, and federal requirements.

Contingency Capacity Strategies

Selectively cancel elective and non-urgent procedures and appointments for which eye protection is typically used by HCP.

Shift eye protection supplies from disposable to re-usable devices (i.e., goggles and reusable face shields).

- Consider preferential use of powered air purifying respirators (PAPRs) or full-face elastomeric respirators which have built-in eye protection.
- Ensure appropriate cleaning and disinfection between users if goggles or reusable face shields are used.

Implement extended use of eye protection

Extended use of eye protection is the practice of wearing the same eye protection for repeated close contact encounters with several different patients, without removing eye protection between patient encounters. Extended use of eye protection can be applied to disposable and reusable devices.

- Eye protection should be removed and reprocessed if it becomes visibly soiled or difficult to see through.
 - If a disposable face shield is reprocessed, it should be dedicated to one HCP and reprocessed whenever it is visibly soiled or removed (e.g., when leaving the isolation area) prior to putting it back on. See protocol for removing and reprocessing eye protection below.
- Eye protection should be discarded if damaged (e.g., face shield can no longer fasten securely to the provider, if visibility is obscured and reprocessing does not restore visibility).
- HCP should take care not to touch their eye protection. If they touch or adjust their eye protection they must immediately perform hand hygiene.
- HCP should leave patient care area if they need to remove their eye protection. See protocol for removing and reprocessing eye protection below.

Crisis Capacity Strategies

Cancel all elective and non-urgent procedures and appointments for which eye protection is typically used by HCP.

Use eye protection devices beyond the manufacturer-designated shelf life during patient care activities.

If there is no date available on the eye protection device label or packaging, facilities should contact the manufacturer. The user should visually inspect the product prior to use and, if there are concerns (such as degraded materials), discard the product.

Prioritize eye protection for selected activities such as:

- During care activities where splashes and sprays are anticipated, which typically includes aerosol generating procedures.
- During activities where prolonged face-to-face or close contact with a potentially infectious patient is unavoidable.

Consider using safety glasses (e.g., trauma glasses) that have extensions to cover the side of the eyes.

Exclude HCP at higher risk for severe illness from COVID-19 from contact with known or suspected COVID-19 patients.

Strategies for Optimizing the Supply of Eye Protection

Source: CDC COVID-19 Website

March 18, 2020

- During severe resource limitations, consider excluding HCP who may be at higher risk for severe illness from COVID-19, such as those of older age, those with chronic medical conditions, or those who may be pregnant, from caring for patients with confirmed or suspected COVID-19 infection.

Designate convalescent HCP for provision of care to known or suspected COVID-19 patients.

- It may be possible to designate HCP who have clinically recovered from COVID-19 to preferentially provide care for additional patients with COVID-19. Individuals who have recovered from COVID-19 infection may have developed some protective immunity, but this has not yet been confirmed.

Selected Options for Reprocessing Eye Protection

Adhere to recommended manufacturer instructions for cleaning and disinfection.

When manufacturer instructions for cleaning and disinfection are unavailable, such as for single use disposable face shields, consider:

1. While wearing gloves, carefully wipe the *inside*, followed by the *outside* of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe.
2. Carefully wipe the *outside* of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution.
3. Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
4. Fully dry (air dry or use clean absorbent towels).
5. Remove gloves and perform hand hygiene.

Strategies for Optimizing the Supply of Facemasks

Source: CDC COVID-19 Website

March 18, 2020

Audience: These considerations are intended for use by federal, state, and local public health officials; leaders in occupational health services and infection prevention and control programs; and other leaders in healthcare settings who are responsible for developing and implementing policies and procedures for preventing pathogen transmission in healthcare settings.

Purpose: This document offers a series of strategies or options to optimize supplies of facemasks in healthcare settings when there is limited supply. It does not address other aspects of pandemic planning; for those, healthcare facilities can refer to [COVID-19 preparedness plans](#).

Surge capacity refers to the ability to manage a sudden, unexpected increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of facemasks during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve facemask supplies along the continuum of care.

- [Conventional capacity](#): measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and personal protective equipment (PPE) controls should already be implemented in general infection prevention and control plans in healthcare settings.
- [Contingency capacity](#): measures may change daily standard practices but may not have any significant impact on the care delivered to the patient or the safety of healthcare personnel (HCP). These practices may be used temporarily during periods of expected facemask shortages.
- [Crisis capacity](#): strategies that are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known facemask shortages.

The following contingency and crisis strategies are based upon these assumptions:

1. Facilities understand their facemask inventory and supply chain
2. Facilities understand their facemask utilization rate
3. Facilities are in communication with local healthcare coalitions, federal, state, and local public health partners (e.g., public health emergency preparedness and response staff) regarding identification of additional supplies.
4. Facilities have already implemented other [engineering and administrative control measures](#) including:
 - - Reducing the number of patients going to the hospital or outpatient settings
 - Excluding HCP not essential for patient care from entering their care area
 - Reducing face-to-face HCP encounters with patients
 - Excluding visitors to patients with confirmed or suspected COVID-19
 - Cohorting patients and HCP
 - Maximizing use of telemedicine
5. Facilities have provided HCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

Strategies for Optimizing the Supply of Facemasks

Source: CDC COVID-19 Website

March 18, 2020

Conventional Capacity Strategies

Use facemasks according to product labeling and local, state, and federal requirements.

- FDA-cleared surgical masks are designed to protect against splashes and sprays and are prioritized for use when such exposures are anticipated, including surgical procedures.
- Facemasks that are not regulated by FDA, such as some procedure masks, which are typically used for isolation purposes, may not provide protection against splashes and sprays.

Contingency Capacity Strategies

Selectively cancel elective and non-urgent procedures and appointments for which a facemask is typically used by HCP.

Remove facemasks for visitors in public areas.

Healthcare facilities can consider removing all facemasks from public areas. Facemasks can be available to provide to symptomatic patients upon check in at entry points. All facemasks should be placed in a secure and monitored site. This is especially important in high-traffic areas like emergency departments.

Implement extended use of facemasks.

Extended use of facemasks is the practice of wearing the same facemask for repeated close contact encounters with several different patients, without removing the facemask between patient encounters.

- The facemask should be removed and discarded if soiled, damaged, or hard to breathe through.
- HCP must take care not to touch their facemask. If they touch or adjust their facemask they must immediately perform hand hygiene.
- HCP should leave the patient care area if they need to remove the facemask.

Restrict facemasks to use by HCP, rather than patients for source control.

Have patients with symptoms of respiratory infection use tissues or other barriers to cover their mouth and nose.

Crisis Capacity Strategies

Cancel all elective and non-urgent procedures and appointments for which a facemask is typically used by HCP.

Use facemasks beyond the manufacturer-designated shelf life during patient care activities.

If there is no date available on the facemask label or packaging, facilities should contact the manufacturer. The user should visually inspect the product prior to use and, if there are concerns (such as degraded materials or visible tears), discard the product.

Implement limited re-use of facemasks.

Limited re-use of facemasks is the practice of using the same facemask by one HCP for multiple encounters with different patients but removing it after each encounter. As it is unknown what the potential contribution of contact transmission is for SARS-CoV-2, care should be taken to ensure that HCP do not touch outer surfaces of the mask during care, and that mask removal and replacement be done in a careful and deliberate manner.

- The facemask should be removed and discarded if soiled, damaged, or hard to breathe through.
- Not all facemasks can be re-used.
 - Facemasks that fasten to the provider via ties may not be able to be undone without tearing and should be considered only for extended use, rather than re-use.
 - Facemasks with elastic ear hooks may be more suitable for re-use.

Strategies for Optimizing the Supply of Facemasks

Source: CDC COVID-19 Website

March 18, 2020

- HCP should leave patient care area if they need to remove the facemask. Facemasks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. The folded mask can be stored between uses in a clean sealable paper bag or breathable container.

Prioritize facemasks for selected activities such as:

- For provision of essential surgeries and procedures
- During care activities where splashes and sprays are anticipated
- During activities where prolonged face-to-face or close contact with a potentially infectious patient is unavoidable
- For performing aerosol generating procedures, if respirators are no longer available

When No Facemasks Are Available, Options Include

Exclude HCP at higher risk for severe illness from COVID-19 from contact with known or suspected COVID-19 patients.

During severe resource limitations, consider excluding HCP who may be at higher risk for severe illness from COVID-19, such as those of older age, those with chronic medical conditions, or those who may be pregnant, from caring for patients with confirmed or suspected COVID-19 infection.

Designate convalescent HCP for provision of care to known or suspected COVID-19 patients.

It may be possible to designate HCP who have clinically recovered from COVID-19 to preferentially provide care for additional patients with COVID-19. Individuals who have recovered from COVID-19 infection may have developed some protective immunity, but this has not yet been confirmed.

Use a face shield that covers the entire front (that extends to the chin or below) and sides of the face with no facemask.

Consider use of expedient patient isolation rooms for risk reduction.

Portable fan devices with high-efficiency particulate air (HEPA) filtration that are carefully placed can increase the effective air changes per hour of clean air to the patient room, reducing risk to individuals entering the room without respiratory protection. NIOSH has developed guidance for using portable HEPA filtration systems to create expedient patient isolation rooms. The expedient patient isolation room approach involves establishing a high-ventilation-rate, negative pressure, inner isolation zone that sits within a “clean” larger ventilated zone.

Consider use of ventilated headboards

NIOSH has developed the ventilated headboard that draws exhaled air from a patient in bed into a HEPA filter, decreasing risk of HCP exposure to patient-generated aerosol. This technology consists of lightweight, sturdy, and adjustable aluminum framing with a retractable plastic canopy. The ventilated headboard can be deployed in combination with HEPA fan/filter units to provide surge isolation capacity within a variety of environments, from traditional patient rooms to triage stations, and emergency medical shelters.

HCP use of homemade masks:

In settings where facemasks are not available, HCP might use homemade masks (e.g., bandana, scarf) for care of patients with COVID-19 as a last resort. However, homemade masks are not considered PPE, since their capability to protect HCP is unknown. Caution should be exercised when considering this option. Homemade masks should ideally be used in combination with a face shield that covers the entire front (that extends to the chin or below) and sides of the face.

Strategies for Optimizing the Supply of Isolation Gowns

Source: CDC COVID-19 Website

March 18, 2020

Audience: These considerations are intended for use by federal, state, and local public health officials; leaders in occupational health services and infection prevention and control programs; and other leaders in healthcare settings who are responsible for developing and implementing policies and procedures for preventing pathogen transmission in healthcare settings.

Purpose: This document offers a series of strategies or options to optimize supplies of isolation gowns in healthcare settings when there is limited supply. It does not address other aspects of pandemic planning; for those, healthcare facilities can refer to [COVID-19 preparedness plans](#).

Surge capacity refers to the ability to manage a sudden, unexpected increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. While there are no widely accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of isolation gowns during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve isolation gown supplies along the continuum of care.

- **Conventional capacity:** measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and personal protective equipment (PPE) controls should already be implemented in general infection prevention and control plans in healthcare settings.
- **Contingency capacity:** measures may change daily standard practices but may not have any significant impact on the care delivered to the patient or the safety of healthcare personnel (HCP). These practices may be used temporarily during periods of expected isolation gown shortages.
- **Crisis capacity:** strategies that are not commensurate with standard U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known isolation gown shortages.

The following contingency and crisis strategies are based upon these assumptions:

1. Facilities understand their current isolation gown inventory and supply chain
2. Facilities understand their isolation gown utilization rate
3. Facilities are in communication with local healthcare coalitions, federal, state, and local public health partners (e.g., public health emergency preparedness and response staff) regarding identification of additional supplies
4. Facilities have already implemented other [engineering and administrative control measures](#) including:
 - Reducing the number of patients going to the hospital or outpatient settings
 - Excluding HCP not directly involved in patient care
 - Reducing face-to-face HCP encounters with patients
 - Excluding visitors to patients with confirmed or suspected COVID-19
 - Cohorting patients and HCP
 - Maximizing use of telemedicine
5. Facilities have provided HCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

Strategies for Optimizing the Supply of Isolation Gowns

Source: CDC COVID-19 Website

March 18, 2020

Conventional Capacity Strategies

Use isolation gown alternatives that offer equivalent or higher protection.

Several fluid-resistant and impermeable protective clothing options are available in the marketplace for HCP. These include isolation gowns and surgical gowns. When selecting the most appropriate protective clothing, employers should consider all of the available information on recommended protective clothing, including the potential limitations. Nonsterile, disposable patient isolation gowns, which are used for routine patient care in healthcare settings, are appropriate for use by HCP when caring for patients with suspected or confirmed COVID-19. In times of gown shortages, surgical gowns should be prioritized for surgical and other sterile procedures. Current U.S. guidelines do not require use of gowns that [conform to any standards](#).

Contingency Capacity Strategies

Selectively cancel elective and non-urgent procedures and appointments for which a gown is typically used by HCP.

Shift gown use towards cloth isolation gowns.

Reusable (i.e., washable) gowns are typically made of polyester or polyester-cotton fabrics. Gowns made of these fabrics can be safely laundered according to [routine procedures](#) and reused. Care should be taken to ensure that HCP do not touch outer surfaces of the gown during care.

- Laundry operations and personnel may need to be augmented to facilitate additional washing loads and cycles
- Systems are established to routinely inspect, maintain (e.g., mend a small hole in a gown, replace missing fastening ties), and replace reusable gowns when needed (e.g., when they are thin or ripped)

Consider the use of coveralls.

[Coveralls](#) typically provide 360-degree protection because they are designed to cover the whole body, including the back and lower legs, and sometimes the head and feet as well. While the material and seam barrier properties are essential for defining the protective level, the coverage provided by the material used in the garment design, as well as certain features including closures, will greatly affect the protective level. HCP unfamiliar with the use of coveralls must be trained and practiced in their use, prior to using during patient care.

In the United States, the [NFPA 1999 standard](#)[external icon](#) specifies the minimum design, performance, testing, documentation, and certification requirements for new single-use and new multiple-use emergency medical operations protective clothing, including coveralls for HCP.

Use of expired gowns beyond the manufacturer-designated shelf life for training.

The majority of isolation gowns do not have a manufacturer-designated shelf life. However, consideration can be made to using gowns that do and are past their manufacturer-designated shelf life. If there is no date available on the gown label or packaging, facilities should contact the manufacturer.

Use gowns or coveralls conforming to international standards.

Current guidelines do not require use of gowns that conform to any standards. In times of shortages, healthcare facilities can consider using [international gowns and coveralls](#). Gowns and coveralls that conform to international standards, including with EN 13795 and EN14126, could be reserved for activities that may involve moderate to high amounts of body fluids.

Strategies for Optimizing the Supply of Isolation Gowns

Source: CDC COVID-19 Website

March 18, 2020

Crisis Capacity Strategies

Cancel all elective and non-urgent procedures and appointments for which a gown is typically used by HCP.

Extended use of isolation gowns.

Consideration can be made to extend the use of isolation gowns (disposable or cloth) such that the same gown is worn by the same HCP when interacting with more than one patient known to be infected with the same infectious disease when these patients housed in the same location (i.e., COVID-19 patients residing in an isolation cohort). This can be considered only if there are no additional co-infectious diagnoses transmitted by contact (such as *Clostridioides difficile*) among patients. If the gown becomes visibly soiled, it must be removed and discarded as per [usual practicespdf icon](#).

Re-use of cloth isolation gowns.

Disposable gowns are not typically amenable to being doffed and re-used because the ties and fasteners typically break during doffing. Cloth isolation gowns could potentially be untied and retied and could be considered for re-use without laundering in between.

In a situation where the gown is being used as part of standard precautions to protect HCP from a splash, the risk of re-using a non-visibly soiled cloth isolation gown may be lower. However, for care of patients with suspected or confirmed COVID-19, HCP risk from re-use of cloth isolation gowns without laundering among (1) single HCP caring for multiple patients using one gown or (2) among multiple HCP sharing one gown is unclear. The goal of this strategy is to minimize exposures to HCP and not necessarily prevent transmission between patients. Any gown that becomes visibly soiled during patient care should be disposed of and cleaned.

Prioritize gowns.

Gowns should be prioritized for the following activities:

- During care activities where splashes and sprays are anticipated, which typically includes aerosol generating procedures
- During the following high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of healthcare providers, such as:
 - Dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use, wound care

Surgical gowns should be prioritized for surgical and other sterile procedures. Facilities may consider suspending use of gowns for endemic multidrug resistant organisms (e.g., MRSA, VRE, ESBL-producing organisms).

When No Gowns Are Available

Consider using gown alternatives that have not been evaluated as effective.

In situation of severely limited or no available isolation gowns, the following pieces of clothing can be considered as a last resort for care of COVID-19 patients as single use. However, none of these options can be considered PPE, since their capability to protect HCP is unknown. Preferable features include long sleeves and closures (snaps, buttons) that can be fastened and secured.

- Disposable laboratory coats
- Reusable (washable) patient gowns
- Reusable (washable) laboratory coats
- Disposable aprons

Strategies for Optimizing the Supply of Isolation Gowns

Source: CDC COVID-19 Website

March 18, 2020

- Combinations of clothing: Combinations of pieces of clothing can be considered for activities that may involve body fluids and when there are no gowns available:
 - Long sleeve aprons in combination with long sleeve patient gowns or laboratory coats
 - Open back gowns with long sleeve patient gowns or laboratory coats
 - Sleeve covers in combination with aprons and long sleeve patient gowns or laboratory coats

Reusable patient gowns and lab coats can be safely laundered according to [routine procedures](#).

- Laundry operations and personnel may need to be augmented to facilitate additional washing loads and cycles
- Systems are established to routinely inspect, maintain (e.g., mend a small hole in a gown, replace missing fastening ties) and replace reusable gowns when needed (e.g., when they are thin or ripped)

Strategies for Optimizing the Supply of N95 Respirators

Source: CDC, Updated February 29, 2020

Audience: These considerations are intended for use by federal, state, and local public health officials, respiratory protection program managers, occupational health service leaders, infection prevention and control program leaders, and other leaders in healthcare settings who are responsible for developing and implementing policies and procedures for preventing pathogen transmission in healthcare settings.

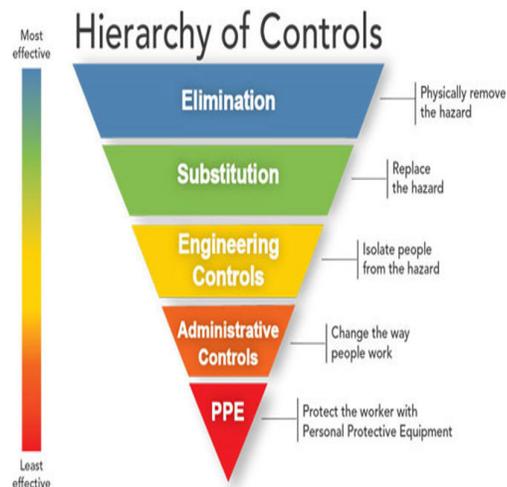
Purpose: This document offers a series of strategies or options to optimize supplies of disposable N95 filtering facepiece respirators (commonly called “N95 respirators”) in healthcare settings when there is limited supply. It does not address other aspects of pandemic planning; for those, healthcare settings can refer to existing influenza preparedness plans to address other aspects of preparing to respond to novel coronavirus disease 2019 (COVID-19). The strategies are also listed in order of priority and preference in the Checklist for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response in an easy-to-use format for healthcare facilities.

The following strategies are based upon these assumptions:

- 1) Facilities understand their current N95 respirator inventory and supply chain,
- 2) Facilities understand their N95 respirators utilization rate, and
- 3) Facilities are in communication with state and local public health partners (e.g., public health emergency preparedness and response staff) and healthcare coalitions.

While these strategies are targeted for optimizing the supply of N95 respirators, some of these strategies may be applicable to optimizing the supply of other personal protective equipment such as gowns, gloves, and eye protection.

Controlling exposures to occupational hazards is a fundamental way to protect personnel. Conventionally, a hierarchy has been used to achieve feasible and effective controls. Multiple control strategies can be implemented concurrently and or sequentially. This hierarchy can be represented as follows:



To prevent infectious disease transmission, elimination (physically removing the hazard) and substitution (replacing the hazard) are not typically options for the healthcare setting. However, exposures to transmissible respiratory pathogens in healthcare facilities can often be reduced or possibly avoided through engineering and administrative controls and PPE. Prompt detection and effective triage and isolation of

potentially infectious patients are essential to prevent unnecessary exposures among patients, healthcare personnel (HCP), and visitors at the facility.

N95 respirators are the PPE most often used to control exposures to infections transmitted via the airborne route, though their effectiveness is highly dependent upon proper fit and use. The optimal way to prevent airborne transmission is to use a combination of interventions from across the hierarchy of controls, not just PPE alone. Applying a combination of controls can provide an additional degree of protection, even if one intervention fails or is not available.

Respirators, when required to protect HCP from airborne contaminants such as infectious agents, must be used in the context of a comprehensive, written respiratory protection program that meets the requirements of OSHA's Respiratory Protection standard. The program should include medical evaluations, training, and fit testing.

Surge capacity refers to the ability to manage a sudden, unexpected increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of N95 respirators during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve N95 respirator supplies along the continuum of care.⁴

- **Conventional capacity:** measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and PPE controls should already be implemented in general infection prevention and control plans in healthcare settings.
- **Contingency capacity:** measures may change daily contemporary practices but may not have any significant impact on the care delivered to the patient or the safety of the HCP. These practices may be used temporarily when demands exceed resources.
- **Crisis capacity:** alternate strategies that are not commensurate with contemporary U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of expected or known N95 respirator shortages.

Decisions to implement measures in contingency capacity and then crisis capacity should be based on:

- Consideration of all conventional capacity strategies first.
- The availability of N95 respirators and other types of respiratory protection.
- Consultation with entities that include some combination of: local healthcare coalitions, federal, state, or local public health officials, appropriate state agencies that are managing the overall emergency response related to COVID-19, and state crisis standards of care committees. Even when state/local coalitions or public health authorities can shift resources between health care facilities, these strategies may still be necessary.



OSHA National News Release

U.S. Department of Labor

March 14, 2020

U.S. Department of Labor Issues Temporary Enforcement Guidance for Respirator Fit-Testing in Healthcare during COVID-19 Outbreak

WASHINGTON, DC – Following President Donald J. Trump’s memorandum on the availability of respirators during the COVID-19 outbreak, the U.S. Department of Labor’s Occupational Safety and Health Administration (OSHA) has issued new temporary guidance regarding the enforcement of OSHA’s Respiratory Protection standard. This guidance is aimed at ensuring healthcare workers have full access to needed N95 respiratory protection in light of anticipated shortages.

“The safety and health of Americans are top priorities for the President. That’s why the Administration is taking this action to protect America’s healthcare workers,” said U.S. Secretary of Labor Eugene Scalia. “Today’s guidance ensures that healthcare workers have the resources they need to stay safe during the COVID-19 outbreak.”

“America’s healthcare workers need appropriate respiratory protection as they help combat the COVID-19 outbreak,” said Principal Deputy Assistant Secretary for Occupational Safety and Health Loren Sweatt. “Today’s guidance outlines commonsense measures that will keep personal respiratory devices available for our country’s healthcare workers.”

OSHA recommends that employers supply healthcare personnel who provide direct care to patients with known or suspected coronavirus with other respirators that provide equal or higher protection, such as N99 or N100 filtering facepieces, reusable elastomeric respirators with appropriate filters or cartridges, or powered air purifying respirators.

This temporary enforcement guidance recommends that healthcare employers change from a quantitative fit testing method to a qualitative testing method to preserve integrity of N95 respirators. Additionally, OSHA field offices have the discretion to not cite an employer for violations of the annual fit testing requirement as long as employers:

- Make a good faith effort to comply with the respiratory protection standard;
- Use only NIOSH-certified respirators;
- Implement strategies recommended by OSHA and Centers for Disease Control and Prevention for optimizing and prioritizing N95 respirators;
- Perform initial fit tests for each healthcare employee with the same model, style, and size respirator that the employee will be required to wear for protection from coronavirus;
- Tell employees that the employer is temporarily suspending the annual fit testing of N95 respirators to preserve the supply for use in situations where they are required to be worn;
- Explain to employees the importance of conducting a fit check after putting on the respirator to make sure they are getting an adequate seal;

- Conduct a fit test if they observe visual changes in an employee's physical condition that could affect respirator fit; and
- Remind employees to notify management if the integrity or fit of their N95 respirator is compromised.

The temporary enforcement guidance is in effect beginning March 14, 2020, and will remain in effect until further notice.

For further information about COVID-19, please visit the U.S. Department of Health and Human Services' Centers for Disease Control and Prevention.

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthful workplaces for their employees. OSHA's role is to help ensure these conditions for America's working men and women by setting and enforcing standards, and providing training, education and assistance. For more information, visit www.osha.gov.

The mission of the U.S. Department of Labor is to foster, promote and develop the welfare of the wage earners, job seekers and retirees of the United States; improve working conditions; advance opportunities for profitable employment; and assure work-related benefits and rights.