
Infection Control

F880

Personal Protective Equipment

§483.80(a)(1)(2)

Inservice Training Program

Provided Courtesy of



F880
Infection Control – Personal Protective Equipment

Table of Contents

Description	Location
Inservice Training Program: Instructor Presentation & Notes	Part 1
Participant Handouts	Part 2
Support Documentation	Part 3

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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1

- **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](#).
- **Instructor Note:** Keep in mind that during emergencies, PPE supplies may be limited. However, it is still **crucial** that your staff continue to **follow** the appropriate procedures for putting on and removing 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.

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

- **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.
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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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4

- **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.

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5

- 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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6

- **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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7

- 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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9

- **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.**

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10

- **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).

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12

- 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

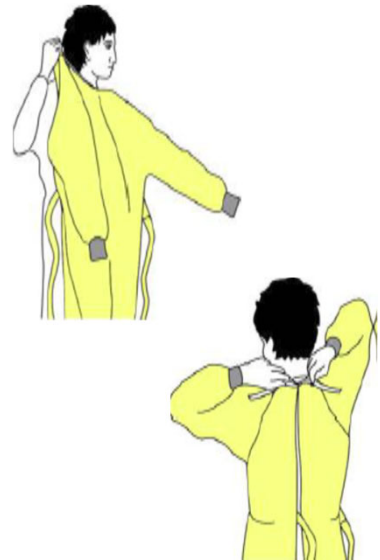
KEY points to remember about PPE use:

- ✓ 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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14

- 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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15

- 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.



6

- **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.



7

- **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.



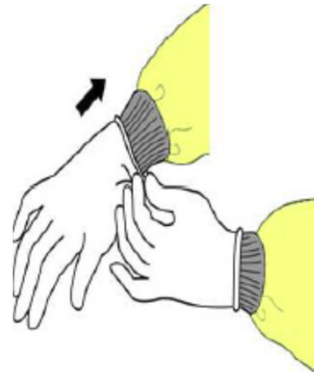
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18

- 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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19

- 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*.

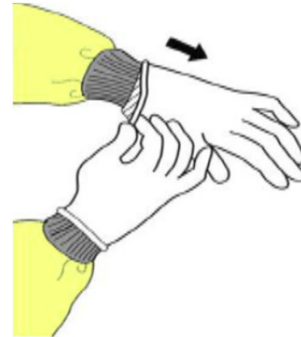
Where to Remove PPE

- ❑ 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.



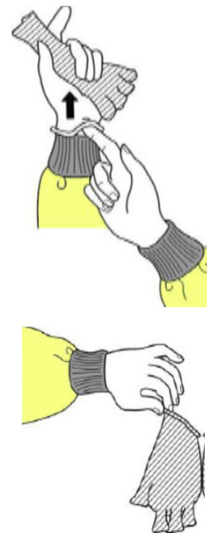
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24

- 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.



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25

- 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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26

- 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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27

- 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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28

- 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?

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- 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

Provided Courtesy of



F880
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.

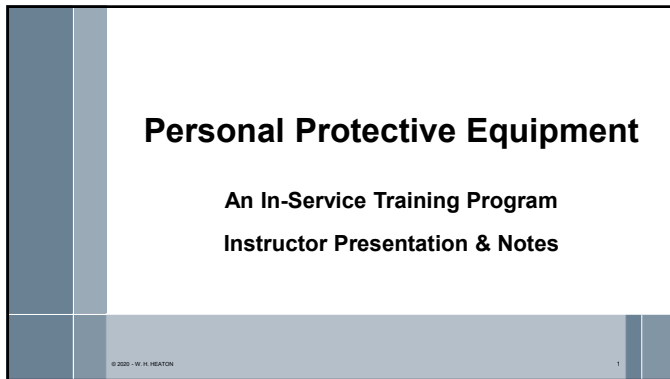
Handout #2 is a copy of CDC’s *Sequence for Putting On Personal Protective Equipment (PPE)*. Use this handout when reviewing information outlined on **Slides 13** through **18**.

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**.

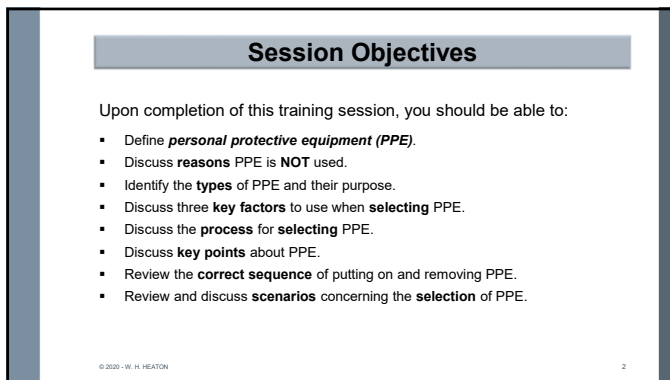
Handout #4 is a copy of CDC’s *How to Properly Put on and Take off a Disposable Respirator*. Use this handout when reviewing information outlined on **Slides 6, 7, and 29**.

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

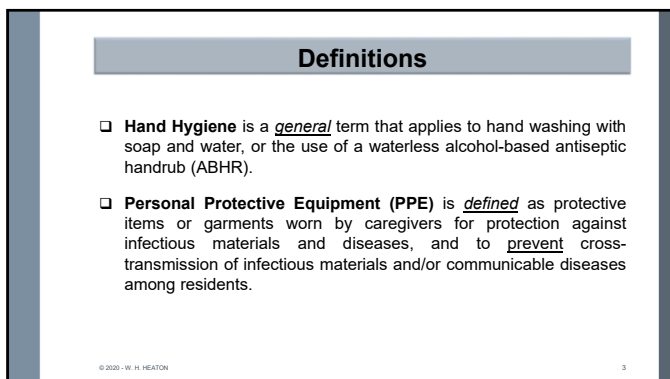
Handout #6 is a *Competency Evaluation Exam*. Use this handout to evaluate each staff member's knowledge and competency level concerning federal guidelines and facility policies governing the use of personal protective equipment (PPE).



1



2



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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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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Handout #1 – Session Outline

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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8

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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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9

9

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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10

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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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11

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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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12

12

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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13

13

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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14

14

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.



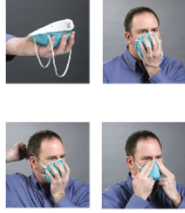
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Putting On a Disposable Respirator

- ❑ **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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16

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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17

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.



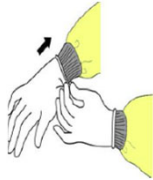
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18

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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19

19

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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20

20

"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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21

21

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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22

22

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.

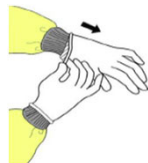
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23

Removing the 1st Glove

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



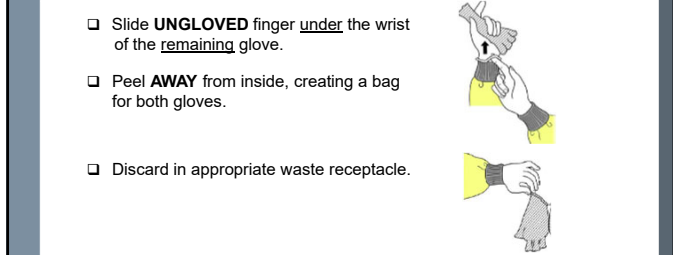
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24

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.



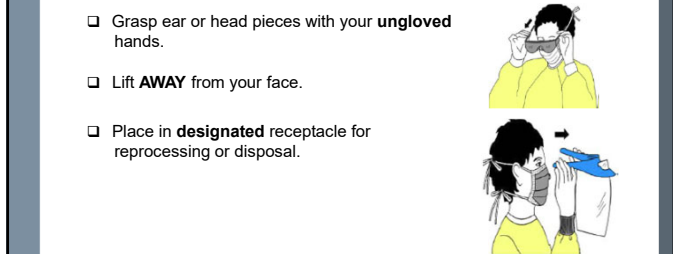
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25

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.



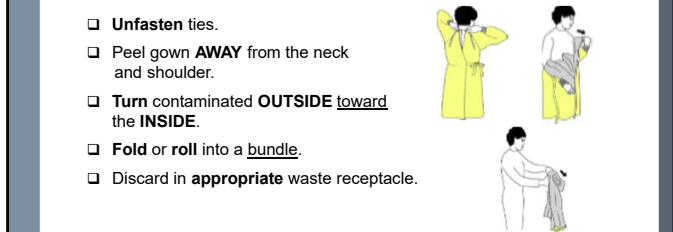
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26

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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28

28

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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29

29

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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30

30

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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31

31

Question and Answer Session

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32

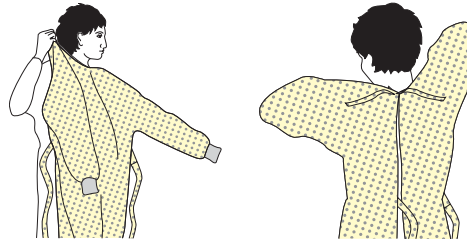
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SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

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



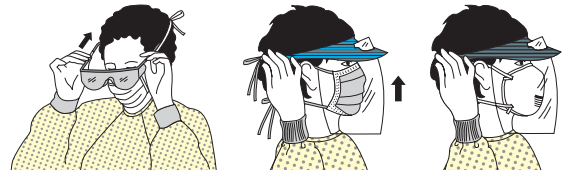
2. MASK OR RESPIRATOR

- 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



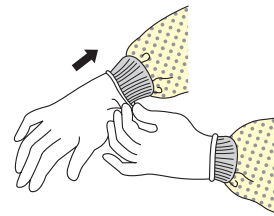
3. GOGGLES OR FACE SHIELD

- 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

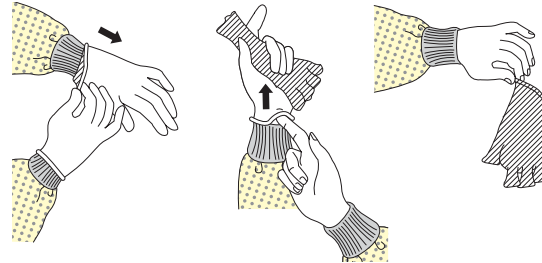
- Mantenga las manos alejadas de la cara
- Limite el contacto con superficies
- Cambie los guantes si se rompen o están demasiado contaminados
- Realice la higiene de las manos

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.

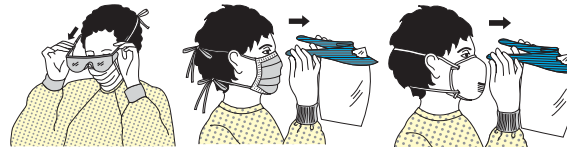
1. GLOVES

- 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



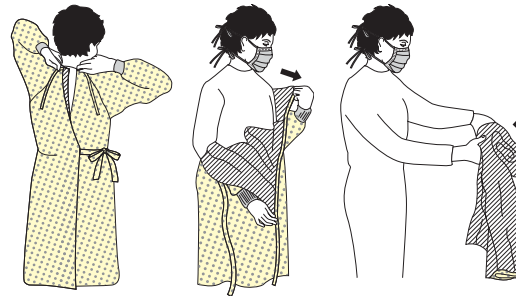
2. GOGGLES OR FACE SHIELD

- 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 reprocesar 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.

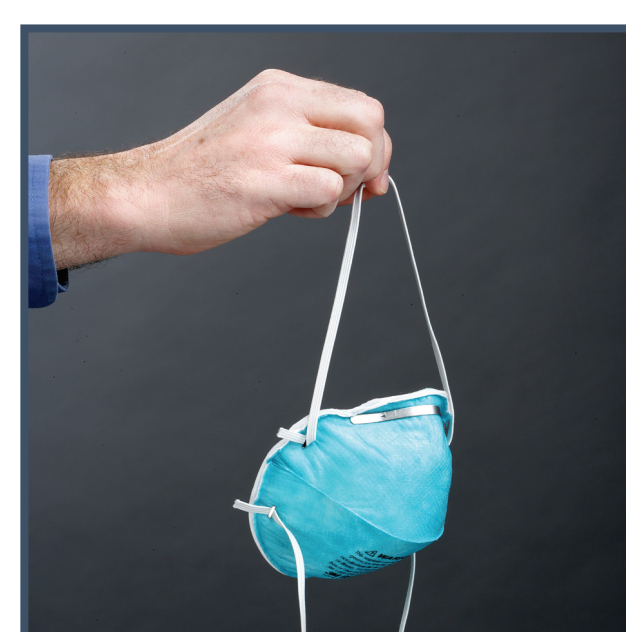
Removing Your Respirator



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: <input type="checkbox"/> 1 st <input type="checkbox"/> 2 nd <input type="checkbox"/> 3 rd	Position/Department:
Work Location:	
Employment Type: <input type="checkbox"/> Facility Staff <input type="checkbox"/> Contract Staff <input type="checkbox"/> Consultant <input type="checkbox"/> Other:	

Answer	
T = True F = False	Mark each Statement True (T) or False (F)
	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



F880
Infection Control – Personal Protective Equipment
Table of Contents

Description	Page
Record of In-Service Training Session	1
Record of Attendance	2
Participant Evaluation Form	3
Certificate of Completion	4
Strategies for Optimizing the Supply of Eye Protection	5
Strategies for Optimizing the Supply of Facemasks	9
Strategies for Optimizing the Supply of Isolation Gowns	13
Strategies for Optimizing the Supply of N95 Respirators	17
OSHA News Release: Temporary Enforcement Guidance for Respirator Fit-Testing	19

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 – Record of Attendance

F880 – Personal Protective Equipment (PPE)

Date Session Conducted: _____	Time Started: _____ [am/pm]	Time Ended: _____ [am/pm]
Location: _____		
Instructor(s): _____		

Personnel Attending

[illegible]

Use additional sheets as necessary. Be sure this document is attached to the Record of Training Session.

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.

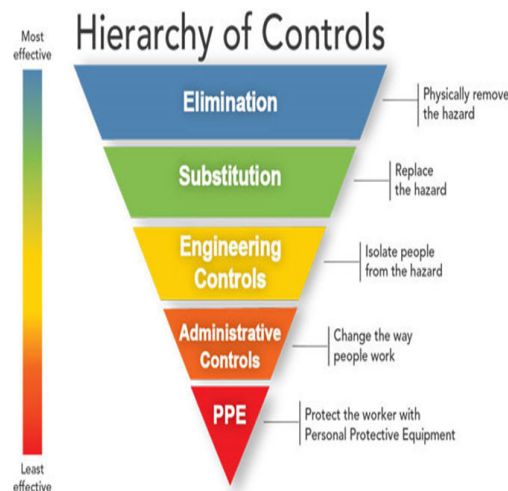
Purpose: This document offers a series of strategies or options to optimize supplies of disposable N95 filtering facepiece respirators (commonly called “N95 respirators”) in healthcare settings when there is limited supply. It does not address other aspects of pandemic planning; for those, healthcare 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.¹

- 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.

Occupational Safety and Health Administration

April 3, 2020

SUBJECT:

Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic

This memorandum provides interim guidance to Compliance Safety and Health Officers (CSHOs) for enforcing the Respiratory Protection standard, 29 CFR § 1910.134, and certain other health standards, with regard to supply shortages of disposable N95 filtering facepiece respirators. Specifically, it outlines enforcement discretion to permit the extended use and reuse of respirators, as well as the use of respirators that are beyond their manufacturer's recommended shelf life (sometimes referred to as "expired"). This guidance applies in all industries, including workplaces in which:

- Healthcare personnel (HCP) are exposed to patients with suspected or confirmed coronavirus disease 2019 (COVID-19) and other sources of SARS-CoV-2 (the virus that causes COVID-19).
- Protection of workers exposed to other respiratory hazards is impacted by the shortage resulting from the response to the COVID-19 pandemic. Such workplace respiratory hazards may be covered by one or more substance-specific health standards.

Our previous memorandum, *Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak*, issued on March 14, 2020, provided temporary guidance for 29 CFR § 1910.134, regarding required annual fit testing of HCP.[1] This memorandum provides additional guidance on enforcing OSHA's respirator standard for all workers, including HCP. In light of the essential need for adequate supplies of respirators, this memorandum will take effect immediately and remain in effect until further notice. This guidance is intended to be time-limited to the current public health crisis. Please frequently check OSHA's webpage at www.osha.gov/coronavirus for updates.

Background

The COVID-19 outbreak, which the World Health Organization recently declared a global pandemic, has created an increased demand for N95 filtering facepiece respirators, limiting availability for use in protecting workers in healthcare and emergency response from exposure to the virus. As a result, the President directed the Secretary of Labor to "[consider] all appropriate and necessary steps to increase the availability of respirators." [2]

The Food and Drug Administration (FDA) also issued an Emergency Use Authorization (EUA) letter permitting National Institute for Occupational Safety and Health (NIOSH)-approved, disposable filtering facepiece respirators, including those that were NIOSH-approved but have since passed the manufacturer's recommended shelf life, to be used in healthcare settings to mitigate further transmission of SARS-CoV-2.[3]

During N95 filtering facepiece respirator (FFR) shortages, the federal government advises that specific N95 FFRs that are beyond their manufacturer's recommended shelf life will provide greater protection than surgical masks (i.e., facemasks, other than surgical N95s; see below) or non-NIOSH-approved masks (e.g., homemade masks or improvised mouth and nose covers, such as bandanas). NIOSH has tested a sample of N95 FFRs that are beyond their manufacturer's recommended shelf life from facilities across the United States and determined that certain N95 models continue to protect against the hazards for which they would ordinarily be appropriate (for N95 FFRs, this means they are still expected to filter out 95% of particles of the most penetrating particle size, or 0.3 µm). However, the Centers for Disease Control and Prevention (CDC) and NIOSH have recommended that expired N95 FFRs be used only as outlined in their *Strategies for Optimizing the Supply of N95 Respirators*. [4] For more information, see www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html.

Enforcement Guidance

All employers whose employees are required to use or are permitted voluntary use of respiratory protection must continue to manage their respiratory protection programs (RPPs) in accordance with the OSHA respirator standard, and should pay close attention to shortages of N95s during the COVID-19 pandemic.[5] Paragraph (d)(1)(iii) in section 1910.134 requires such employers to identify and evaluate respiratory hazards in the workplace, and paragraph (c)(1) requires employers to develop and implement written RPPs with worksite-specific procedures and to update their

written programs as necessary to reflect changes in workplace conditions that affect respirator use. CSHOs should generally refer to CPL 02-00-158, *Inspection Procedures for the Respiratory Protection Standard*, 6/26/2014, for further guidance.[6]

Due to the impact on workplace conditions caused by limited supplies of N95 FFRs, all employers should reassess their engineering controls, work practices, and administrative controls to identify any changes they can make to decrease the need for N95 respirators. Employers should, for example, consider whether it is possible to increase the use of wet methods or portable local exhaust systems or to move operations outdoors. In some instances, an employer may also consider taking steps to temporarily suspend certain non-essential operations.

If respiratory protection must be used, employers may consider use of alternative classes of respirators that provide equal or greater protection compared to an N95 FFR, such as NIOSH-approved, non-disposable, elastomeric respirators or powered, air-purifying respirators (PAPRs). Other filtering facepiece respirators, such as N99, N100, R95, R99, R100, P95, P99, and P100, are also permissible alternatives for those who are unable to obtain N95 FFRs. However, per 29 CFR § 1910.134(d)(1)(ii), when considering N95 alternatives, check to ensure that they are NIOSH-approved, at www.cdc.gov/niosh/nppt/topics/respirators/disp_part/default.html. When these alternatives are not available, or where their use creates additional safety or health hazards, employers may consider the extended use or reuse of N95 FFRs or use of N95 FFRs that were NIOSH-approved but have since passed the manufacturer's recommended shelf life.

The following specific enforcement guidance is provided for CSHOs inspecting workplaces where workers are using N95 FFRs.

All employers:

▪ ***Extended use or reuse of N95s:***

- In the event extended use or reuse of N95 FFRs becomes necessary, the same worker is permitted to extend use of or reuse the respirator, as long as the respirator maintains its structural and functional integrity and the filter material is not physically damaged, soiled, or contaminated (e.g., with blood, oil, paint).[7] Employers must address in their written RPPs the circumstances under which a disposable respirator will be considered contaminated and not available for extended use or reuse. Extended use is preferred over reuse due to contact transmission risk associated with donning/doffing during reuse. When respirators are being re-used, employers should pay particular attention to workers' proper storage of the FFRs in between periods of reuse.
 - Users should perform a user seal check each time they don a respirator and should not use a respirator on which they cannot perform a successful user seal check. *See* 29 CFR § 1910.134, Appendix B-1, *User Seal Check Procedures*. [8]
 - Employers should train workers to understand that if the structural and functional integrity of any part of the respirator is compromised, it should be discarded, and that if a successful user seal check cannot be performed, another respirator should be tried to achieve a successful user seal check.
 - If reuse of respirators is necessary, an appropriate sequence for donning/doffing procedures should be used to prevent contamination, and training needs to address appropriate donning/doffing procedures. *See* www.cdc.gov/niosh/nppt/pdfs/PPE-Sequence-508.pdf.

▪ ***Use of expired N95s:***

- In the event that N95s are not available and the employer has shown a good faith effort to acquire the respirators or to use alternative options, as outlined below, CSHOs should exercise enforcement discretion for the use of N95 FFRs beyond the manufacturer's recommended shelf life, including surgical N95s.[9]
 - Employers may use only previously NIOSH-certified expired N95 FFRs found at www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html. Workers should be notified that they are using expired N95s.
 - Purchasers and users of personal protective equipment should not co-mingle products that are past their manufacturer's recommended shelf life (i.e., expired) with items that are within their shelf life.
 - Employers should visually inspect, or ensure that workers visually inspect, the N95 FFRs to determine if the structural and functional integrity of the respirator has been compromised. Over time,

components such as the straps, nose bridge, and nose foam material may degrade, which can affect the quality of the fit and seal.

- Where an employer has expired N95s available from their own stored cache (i.e., not from the U.S. Strategic National Stockpile), the employer should seek assistance from the respirator manufacturer or independent lab regarding testing of those stored respirators prior to use.

Healthcare employers only:

- Expired N95s generally must ***not*** be used when HCP:
 - Perform surgical procedures on patients infected with, or potentially infected with, SARS-CoV-2, or perform or are present for procedures expected to generate aerosols or procedures where respiratory secretions are likely to be poorly controlled (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction).
 - In accordance with CDC guidance for optimizing the supply of respirators, employers should prioritize the use of N95 respirators by activity type. When HCP perform or are present for aerosol-generating procedures or procedures where respiratory secretions are likely to be poorly controlled, use respirators (including N95 FFRs; other FFRs; non-disposable, elastomeric respirators; and PAPRs) that are still within their manufacturer's recommended shelf life, if available, before using respirators that are beyond their manufacturer's recommended shelf life. See www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/contingency-capacity-strategies.html. The CDC guidance also addresses scenarios in which other crisis standards of care may need to be considered, but this enforcement guidance is not intended to cover those scenarios.

As mentioned above, the FDA has concluded that respirators approved by NIOSH, but not currently meeting the FDA's requirements, may be protective against SARS-CoV-2. The FDA is providing a list of authorized emergency-use respirators for HCP. Healthcare employers may view the list of approved respirators, and respirator manufacturers and stockpile managers may find information about how to obtain approval for expired respirators, at: www.fda.gov/media/135763/download and www.fda.gov/media/135921/download.

Citation guidance:

OSHA will, on a case-by-case basis, exercise enforcement discretion when considering issuing citations under 29 CFR § 1910.134(d) and/or the equivalent respiratory protection provisions of other health standards in cases where:

- The employer has made a good faith effort to obtain other alternative filtering facepiece respirators, reusable elastomeric respirators, or PAPRs appropriate to protect workers;
- The employer has monitored their supply of N95s and prioritized their use according to CDC guidance (www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html; www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html);
- Surgical masks and eye protection (e.g., face shields, goggles) were provided as an interim measure to protect against splashes and large droplets (note: surgical masks are ***not*** respirators and do not provide protection against aerosol-generating procedures); and
- Other feasible measures, such as using partitions, restricting access, cohorting patients (healthcare), or using other engineering controls, work practices, or administrative controls that reduce the need for respiratory protection, were implemented to protect employees.

Where the above efforts are absent and respiratory protection use is required, or voluntary use is permitted, and an employer fails to comply with fit testing, maintenance, care, and training requirements, cite the applicable provision(s) of 29 CFR § 1910.134 and/or other applicable expanded health standards as serious violations. If you have any questions regarding this policy, please contact the Directorate of Enforcement Programs at (202) 693-2190.

[Corrected 4/8/2020]

- [1] OSHA Memorandum on *Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak*, March 14, 2020, at www.osha.gov/memos/2020-03-14/temporary-enforcement-guidance-healthcare-respiratory-protection-annual-fit.
- [2] www.whitehouse.gov/presidential-actions/memorandum-making-general-use-respirators-available/
- [3] www.fda.gov/media/135763/download.
- [4] www.cdc.gov/coronavirus/2019-ncov/hcp/respirator-supply-strategies.html.
- [5] *See also*, OSHA letter of interpretation to John Boren, *Voluntary Use of Surgical Masks*, 12/20/2017, at: www.osha.gov/laws-regs/standardinterpretations/2017-12-20.
- [6] www.osha.gov/enforcement/directives/cpl-02-00-158.
- [7] *See* NIOSH webpage defining the difference between extended use and re-use of N95s at: www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html.
- [8] *User Seal Check Procedures*, at: www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134AppB1. OSHA tutorial videos are available at: www.youtube.com/watch?v=TzpZ5fko-fg (English); www.youtube.com/watch?v=jgRKuRcTGeE (Spanish).
- [9] Surgical N95s are NIOSH-approved N95 FFRs that are also certified by the FDA for use as a surgical mask. Surgical N95s are normally tested for fluid resistance and flammability. These requirements were not evaluated as part of the NIOSH shelf life testing discussed in this memorandum. CDC/NIOSH does not recommend using N95s beyond the manufacturer-designated shelf life in surgical settings.

Occupational Safety and Health Administration

April 3, 2020

SUBJECT:

Enforcement Guidance for Use of Respiratory Protection Equipment Certified under Standards of Other Countries or Jurisdictions During the Coronavirus Disease 2019 (COVID-19) Pandemic

This memorandum provides interim guidance to Compliance Safety and Health Officers (CSHOs) for enforcing the Respiratory Protection standard, 29 CFR § 1910.134, and certain other health standards, with regard to supply shortages of disposable N95 filtering facepiece respirators (FFRs). Specifically, it outlines enforcement discretion to permit the use of FFRs and air-purifying elastomeric respirators that are either:

- Certified under certain standards of other countries or jurisdictions, as specified below; or
- When equipment certified under standards of other countries or jurisdictions is not available, previously certified under the standards of other countries or jurisdictions but are beyond their manufacturer's recommended shelf life (i.e., expired).

This guidance applies in all industries, including workplaces in which:

- Healthcare personnel (HCP) are exposed to patients with suspected or confirmed coronavirus disease 2019 (COVID-19) and other sources of SARS-CoV-2 (the virus that causes COVID-19).
- Protection of workers exposed to other respiratory hazards is impacted by the shortage resulting from the response to the COVID-19 pandemic. Such workplace respiratory hazards may be covered by one or more substance-specific health standards.

Our previous memoranda, *Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak*, issued on March 14, 2020, and *Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic*, issued on April 3, 2020, provided temporary guidance for 29 CFR § 1910.134, regarding required annual fit testing of HCP and use of respirators beyond their manufacturer's recommended shelf life, respectively.[1] This memorandum provides additional guidance on enforcing OSHA's Respiratory Protection standard (and other health standards that require respiratory protection) for all workers, including HCP. In light of the essential need for adequate supplies of respirators, this memorandum will take effect immediately and remain in effect until further notice. This guidance is intended to be time-limited to the current public health crisis. Please frequently check OSHA's webpage at www.osha.gov/coronavirus for updates.

Background

The World Health Organization declared the COVID-19 pandemic on March 11, 2020. The pandemic has created an increased demand for N95 FFRs, limiting availability for use in protecting workers in healthcare and emergency response from exposure to the virus. As a result, the President directed the Secretary of Labor to “take all appropriate and necessary steps to increase the availability of respirators.”[2]

Although the Secretary, through OSHA, has allowed for enforcement flexibility with regard to some provisions of the Respiratory Protection standard, the availability of N95 FFRs or other respirators certified by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR Part 84 remains a concern throughout the country.

In some circumstances, additional supplies of respirators certified under standards from other countries or jurisdictions may be available. During periods of shortages of N95 FFRs, the federal government advises that FFRs, air-purifying elastomeric respirators, and compatible filters certified under the following standards of other countries or jurisdictions will provide greater protection than surgical masks (i.e., facemasks, other than surgical N95s[3]), homemade masks, or improvised mouth and nose covers, such as bandanas and scarves:

- Australia: AS/NZS 1716:2012
- Brazil: ABNT/NBR 13694:1996; ABNT/NBR 13697:1996; and ABNT/NBR 13698:2011
- People's Republic of China: GB 2626-2006; and GB 2626-2019

- European Union: EN 140-1999; EN 143-2000; and EN 149-2001
- Japan: JMHLW-2000
- Republic of Korea: KMOEL-2014-46; and KMOEL-2017-64
- Mexico: NOM-116-2009

Certification in accordance with these standards ensures that devices provide similar filtration as NIOSH-certified equipment, as described in Tables 1 and 2, below, and, accordingly, have an assigned protection factor greater than or equal to 10.

Enforcement Guidance

All employers whose employees are required to use or are permitted voluntary use of respiratory protection must continue to manage their respiratory protection programs (RPPs) in accordance with the OSHA respirator standard, and should pay close attention to shortages of N95s during the COVID-19 pandemic.[4] Paragraph (d)(1)(iii) in section 1910.134 requires such employers to identify and evaluate respiratory hazards in the workplace, and paragraph (c)(1) requires employers to develop and implement written RPPs with worksite-specific procedures and to update their written programs as necessary to reflect changes in workplace conditions that affect respirator use. CSHOs should generally refer to CPL 02-00-158, *Inspection Procedures for the Respiratory Protection Standard*, 6/26/2014, for further guidance.[5]

Due to the impact on workplace conditions caused by limited supplies of N95 FFRs, all employers should reassess their engineering controls, work practices, and administrative controls to identify any changes they can make to decrease the need for N95 respirators. Employers should, for example, consider whether it is possible to increase the use of wet methods or portable local exhaust systems or to move operations outdoors. In some instances, an employer may also consider taking steps to temporarily suspend certain non-essential operations.

If respiratory protection must be used, and either acceptable NIOSH-certified alternatives or alternatives that were NIOSH-certified except for having exceeded their manufacturer's shelf life are not available for use in accordance with OSHA's April 3, 2020 memorandum, employers may consider using respirators and filters certified under standards of other countries or jurisdictions, as described in Tables 1 and 2 of Appendix A.

The following specific enforcement guidance is provided for CSHOs inspecting workplaces where workers are using respirators and/or filters in accordance with standards of other countries or jurisdictions in lieu of NIOSH-certified devices.

All employers should:

- Make a good-faith effort to provide and ensure workers use the most appropriate respiratory protection available for the hazards against which workers need to be protected. This should be accomplished through, in this order:
 - Implementing the hierarchy of controls in an effort first to eliminate or substitute out workplace hazards, then using engineering controls, administrative controls, and safe work practices to prevent worker exposures to respiratory hazards.
 - Prioritizing efforts to acquire and use equipment in the following order:
 - NIOSH-certified equipment; then
 - Equipment certified in accordance with standards of other countries or jurisdictions except the People's Republic of China, unless equipment certified in accordance with standards of the People's Republic of China is manufactured by a NIOSH certificate holder[6]; then
 - Equipment certified in accordance with standards of the People's Republic of China, the manufacturer of which is not a NIOSH certificate holder[6]; then
 - Facemasks (e.g., medical masks, procedure masks).
 - Prioritizing efforts to acquire and use equipment that has not exceeded its manufacturer's recommended shelf life before allowing workers to use equipment that is beyond its manufacturer's recommended shelf life. Equipment used beyond its manufacturer's recommended shelf life must be used in accordance with OSHA's April 3, 2020 memorandum.
 - Prioritizing efforts to use equipment that has not exceeded its intended service life (e.g., disposable FFRs used for the first time) before implementing protocols for extended use or reuse of equipment. Extended use or reuse of equipment should follow the Centers for Disease Control and Prevention's *Strategies for Optimizing the Supply of N95 Respirators*.

- Using homemade masks or improvised mouth and nose covers only, as a last resort (i.e., when no respirators or facemasks are available). Improvised masks are not personal protective equipment and, ideally, should be used with a face shield to cover the front and sides of the face. When this measure is the only resort, refer to the Centers for Disease Control and Prevention (CDC) guidance at www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html.
- Ensure users perform a user seal check each time they don a respirator, regardless of whether it is a NIOSH-certified device or device certified under standards of other countries or jurisdictions, and do not use a respirator on which a user cannot perform a successful user seal check. *See* 29 CFR § 1910.134, Appendix B-1, *User Seal Check Procedures*.^[7]
- Train workers to understand that if the structural and functional integrity of any part of the respirator is compromised, it should be discarded, and that if a successful user seal check cannot be performed, another respirator should be tried to achieve a successful user seal check.
- Visually inspect, or ensure that workers visually inspect, the FFRs to determine if the structural and functional integrity of the respirator has been compromised. Over time, components such as the straps, nose bridge, and nose foam material may degrade, which can affect the quality of the fit and seal.
- Avoid co-mingling products from different categories of equipment. NIOSH-certified equipment, equipment that was previously NIOSH-certified but that has surpassed its manufacturer's recommended shelf life, equipment certified under standards of other countries or jurisdictions, and equipment that was previously certified under standards of other countries or jurisdictions but that has surpassed its manufacturer's recommended shelf life should be stored separately.
- Train employees on the procedures for the sequence of donning/doffing to prevent self-contamination. *See* www.cdc.gov/niosh/nppt/pdfs/PPE-Sequence-508.pdf.

Healthcare employers only:

- When HCP perform surgical procedures on patients infected with, or potentially infected with, SARS-CoV-2 or perform or are present for procedures expected to generate aerosols or procedures where respiratory secretions are likely to be poorly controlled (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction):
 - Respiratory protection equipment certified exclusively in accordance with standards of the People's Republic of China and manufactured by companies that are not NIOSH approval holders must not be used unless the only feasible alternative is a facemask or improvised nose/mouth cover^[6];
 - In accordance with CDC guidance for optimizing the supply of respirators, employers should prioritize the use of N95 respirators by activity type. When HCP perform or are present for aerosol-generating procedures or procedures where respiratory secretions are likely to be poorly controlled, use respirators (including N95 FFRs; other FFRs; non-disposable, elastomeric respirators; and powered, air-purifying respirators (PAPRs)) that are still within their manufacturer's recommended shelf life, if available, before using respirators that are beyond their manufacturer's recommended shelf life. *See* www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/contingency-capacity-strategies.html. The CDC guidance also addresses scenarios in which other crisis standards of care may need to be considered, but this enforcement guidance is not intended to cover those scenarios.
- It is reasonable for healthcare employers to reserve some NIOSH- or foreign-certified N95 FFRs or better respirators for use by HCP who are expected to perform surgical procedures on patients infected with, or potentially infected with, SARS-CoV-2 or perform or be present for procedures expected to generate aerosols or procedures where respiratory secretions are likely to be poorly controlled. In such cases, and particularly when workers performing other tasks are provided with alternative equipment, employers should be able to provide a reasonable rationale for their decision to stockpile respirators appropriate to protect workers during aerosol-generating procedures.

Citation guidance:

OSHA will, on a case-by-case basis, exercise enforcement discretion when considering issuing citations under 29 CFR § 1910.134(d) and/or the equivalent respiratory protection provisions of other health standards in cases where:

- Other feasible measures, such as using partitions, restricting access, cohorting patients (healthcare), or using other engineering controls, work practices, or administrative controls that reduce the need for respiratory protection, were implemented to protect employees.
- The employer has made a good faith effort to obtain other appropriate alternative FFRs, reusable elastomeric respirators, or PAPRs, including NIOSH-certified equipment or equipment that was previously NIOSH-certified but that has surpassed its manufacturer's recommended shelf life (in accordance with OSHA's April 3, 2020 memorandum);
- In healthcare, the employer has monitored their supply of N95s and prioritized their use according to CDC guidance (www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html; www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html); and
- Surgical masks and eye protection (e.g., face shields, goggles) were provided as an interim measure to protect against splashes and large droplets (note: surgical masks are **not** respirators and do not provide protection against aerosol-generating procedures).

Where the above efforts are absent and respiratory protection use is required, or voluntary use is permitted, and an employer fails to comply with fit testing, maintenance, care, and training requirements, cite the applicable provision(s) of 29 CFR § 1910.134 and/or other applicable expanded health standards as serious violations. If you have any questions regarding this policy, please contact the Directorate of Enforcement Programs at (202) 693-2190.

Appendix A

This appendix includes tables referenced in the memorandum, covering respirators that are similar to NIOSH-approved N95 FFRs (Table 1) and respirator-cartridge units that are similar to NIOSH-approved air-purifying elastomeric half-facepiece respirators (Table 2), which are approved under standards used in other countries or jurisdictions.

Table 1. Respirators Approved Under Standards Used in Other Countries or Jurisdictions That Are Similar to NIOSH-Approved N95 Filtering Facepiece Respirators

Country	Performance Standard	Acceptable Product Classification	May Be Used in Lieu of NIOSH-Certified Products Classified as
Australia	AS/NZS 1716:2012	P2	N95
		P3	N99 or lower
Brazil	ABNT/NBR 13698:2011	PFF2	N95
		PFF3	N99 or lower
China (People's Republic of)	GB 2626-2006	KN/KP95	N95
		KN/KP100	N99 or lower
Europe	EN 149-2001	P2	N95
		P3	N99 or lower
Japan	JMHLW-2000	DS/DL2	N95
		DS/DL3	N99 or lower
Korea (Republic of)	KMOEL-2017-64	Special 1st	N95
Mexico	NOM-116-2009	N95	N95
		R95	R95 or lower
		P95	P95 or lower
		N99	N99 or lower
		R99	R99 or lower
		P99	P99 or lower
		N100	N100 or lower
		R100	R100 or lower
		P100	P100 or lower

Table 2. Respirator-Cartridge Units Approved Under Standards Used in Other Countries or Jurisdictions That Are Similar to NIOSH-Approved Elastomeric Half-Facepiece Respirators

Country	Performance Standard	Acceptable Product Classification	May Be Used in Lieu of NIOSH-Certified Products Classified as
Australia	AS/NZS 1716:2012	P2	N95
		P3	N99 or lower
Brazil	ABNT/NBR 13694:1996; ABNT/NBR 13697:1996	P2	N95
		P3	N99 or lower
China (People's Republic of)	GB 2626-2006; GB 2626-2019	KN/KP95	N95
		KN/KP100	N99 or lower
Europe	EN140-1999; EN 143-2000	P2	N95
		P3	N99 or lower
Japan	JMHLW-2000	RS/RL2	N95
		RS/RL3	N99 or lower
Korea (Republic of)	KMOEL-2014-46	Special 1st	N95
Mexico	NOM-116-2009	N95	N95
		R95	R95 or lower
		P95	P95 or lower
		N99	N99 or lower
		R99	R99 or lower
		P99	P99 or lower
		N100	N100 or lower
		R100	R100 or lower
		P100	P100 or lower

[1] OSHA memorandum on *Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak*, March 14, 2020, at www.osha.gov/memos/2020-03-14/temporary-enforcement-guidance-healthcare-respiratory-protection-annual-fit; OSHA memorandum on *Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic*, April 3, 2020, at www.osha.gov/memos/2020-04-03/enforcement-guidance-respiratory-protection-and-n95-shortage-due-coronavirus.

[2] Presidential Memorandum, *Memorandum on Making General Use Respirators Available*, March 11, 2020, www.whitehouse.gov/presidential-actions/memorandum-making-general-use-respirators-available/.

[3] Surgical N95s are NIOSH-approved N95 FFRs that are also certified by the U.S. Food and Drug Administration (FDA) for use as a surgical mask. Surgical N95s are normally tested for fluid resistance and flammability.

[4] *See also*, OSHA letter of interpretation to John Boren, *Voluntary Use of Surgical Masks*, 12/20/2017, at: www.osha.gov/laws-regs/standardinterpretations/2017-12-20.

[5] www.osha.gov/enforcement/directives/cpl-02-00-158.

[6] According to the National Institute for Occupational Safety and Health (NIOSH), it has observed that products from the People's Republic of China may not meet the requirements of the standards to which they are certified and may not offer or sustain the protection claimed as typically expected when using NIOSH-approved N95 respirators. However, devices supplied by current NIOSH approval holders producing respirators under the standards authorized in the countries and/or jurisdictions addressed in this memorandum are expected to provide the protection indicated, given that a proper fit is achieved.

[7] *User Seal Check Procedures*, at: www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134AppB1. OSHA tutorial videos are available at: www.youtube.com/watch?v=Tzpz5fko-fg (English); www.youtube.com/watch?v=jgRKuRcTGeE (Spanish).

UNITED STATES DEPARTMENT OF LABOR

Occupational Safety and Health Administration

April 8, 2020

Expanded Temporary Enforcement Guidance on Respiratory Protection Fit-Testing for N95 Filtering Facepieces in All Industries During the COVID-19 Pandemic

This memorandum expands temporary enforcement guidance provided in OSHA's March 14, 2020, memorandum to Compliance Safety and Health Officers for enforcing annual fit-testing requirements of the Respiratory Protection standard, 29 CFR § 1910.134(f)(2), with regard to supply shortages of N95s or other filtering facepiece respirators (FFRs) due to the coronavirus disease 2019 (COVID-19) pandemic.^[1] The March 14 guidance, which applied to healthcare, now applies to all workplaces covered by OSHA where there is required use of respirators. This memorandum will take effect immediately and remain in effect until further notice. This guidance is intended to be time-limited to the current public health crisis. Please frequently check OSHA's webpage at www.osha.gov/coronavirus for updates.

OSHA field offices will exercise enforcement discretion concerning the annual fit-testing requirements, as long as employers have made good-faith efforts to comply with the requirements of the Respiratory Protection standard and to follow the steps outlined in the March 14, 2020 memorandum. Employers should also assess their engineering controls, work practices, and administrative controls on an ongoing basis to identify any changes they can make to decrease the need for N95s or other FFRs. When reassessing these types of controls and practices, employers should, for example, consider whether it is possible to increase the use of wet methods or portable local exhaust systems or to move operations outdoors. In some instances, an employer may also consider taking steps to temporarily suspend certain non-essential operations.

Further, given additional concerns regarding a shortage of fit-testing kits and test solutions (e.g., Bitrex™, isoamyl acetate), employers are further encouraged to take necessary steps to prioritize use of fit-testing equipment to protect employees who must use respirators for high-hazard procedures.

In the absence of quantitative or qualitative fit-testing capabilities required under mandatory Appendix A to 29 CFR § 1910.134 Appendix A, the following additional guidance is provided to assist with decision-making with respect to use of N95s or other FFRs. Most respirator manufacturers produce multiple models that use the same basic head form for size/fit. Manufacturers may have a crosswalk (i.e., a list of their respirators with equivalent fit). Therefore, if a user's respirator model (e.g., model x) is out of stock, employers should consult the manufacturer to see if it recommends a different model (e.g., model y or z) that fits similarly to the model (x) used previously by employees.

During this COVID-19 pandemic, OSHA field offices should exercise additional enforcement discretion regarding compliance with 29 CFR § 1910.134(f) when an employer switches to an equivalent-fitting make/model/size/style N95 or other filtering facepiece respirator without first performing an initial quantitative or qualitative fit test. Where the use of respiratory protection is required and an employer fails to comply with any other requirements, such as initial fit testing, maintenance, care, and training in the Respiratory Protection standard, cite the applicable section(s) of 29 CFR § 1910.134.

If you have any questions regarding these policies, please contact the Directorate of Enforcement Programs at (202) 693-2190.

Strategies for Optimizing the Supply of Disposable Medical Gloves

Source: CDC April 30, 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 disposable medical gloves 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 from which to approach a decreased supply of gloves during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve glove supplies along the continuum of care.

- **[Conventional capacity](#):** measures consist of providing patient care without any change in contemporary daily practices. This set of measures, consisting of engineering and administrative controls and personal protective equipment (PPE) 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 glove 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 glove shortages.

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

1. Facilities understand their current glove inventory and supply chain.
2. Facilities understand their glove 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](#), for any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

Strategies for Optimizing the Supply of Disposable Medical Gloves

Source: CDC April 30, 2020

Conventional Capacity Strategies

Continue providing patient care without any change in daily contemporary practices

Note: CDC does not recommend double gloves when providing care to suspected or confirmed COVID-19 patients.

- Continue use of approved disposable medical gloves in accordance with [standard](#) and [transmission-based](#) precautions in healthcare settings and when indicated for other exposures such as handling cleaning chemicals.
- Reinforce indications and recommended practices for non-sterile disposable glove use.
- Prioritize sterile gloves for surgical and other sterile procedures.
- Medical gloves for handling chemotherapy agents (chemotherapy gloves) should be prioritized for HCP handling chemotherapy and other hazardous drugs.
- Remind HCP about indications for when gloves are needed, as well as common care situations when gloves may not be needed.

Contingency Capacity Strategies

Use of gloves past their manufacturer-designated shelf life for training activities

Non-sterile disposable gloves cleared by the Food and Drug Administration (FDA) are not required to have [expiration date labeling](#); however, some manufacturers choose to designate a shelf life.

Facilities may consider using gloves past their manufacturer-designated shelf life (if a shelf life is designated) for situations where HCP are **not** exposed to pathogens, such as during training activities.

Use of gloves conforming to other U.S. and international standards

Healthcare facilities may consider using disposable medical gloves that are *similar to* FDA-cleared surgical and examination gloves but are approved under other U.S. or international standards. Examples are shown in the table below.

Use of gloves conforming to other U.S. and international standards		
Country	Performance Standard	May Be Used in Lieu of
U.S.	NFPA 1999-2018 (single use emergency medical gloves)	Examination gloves ^a
	ANSI/ADA 76-2005	Examination gloves ^a
Europe	EN 455 (EN 455-1:2000; EN 455-2:2015; EN 455-3:2015; EN 455-4:2009) ^b	Surgeon's gloves (ASTM D3577-19) ^c
	EN 455 (EN 455-1:2000; EN 455-2:2015; EN 455-3:2015; EN 455-4:2009) ^d	Examination gloves ^a
	EN ISO 374-5:2016 ^e	Examination gloves ^a
China	GB 10213:2016	Examination gloves ^a

Strategies for Optimizing the Supply of Disposable Medical Gloves

Source: CDC April 30, 2020

Use of gloves conforming to other U.S. and international standards		
Country	Performance Standard	May Be Used in Lieu of
Australia	AS/NZS 4011.1:2014 (latex) AS/NZS 4011.2: 2014 (vinyl)	Examination gloves (ASTM D3578-19) Examination gloves (ASTM D5250-19)
Japan	JIS T9107:2018	Surgeon's gloves (ASTM D3577-19) ^c
	JIS T9115:2018	Examination gloves ^a
Malaysia	MS 1155:2003	Examination gloves ^a
International	ISO 10282:2014	Surgeon's gloves (ASTM D3577-19) ^c
	ISO 11193-1:2008 (latex)	Examination gloves (ASTM D3578-19)
	ISO 11193-2:2006 (vinyl)	Examination gloves (ASTM D5250-19)

^a Recognized standards for patient examination gloves include ASTM D3578-19 (latex rubber), ASTM D5250-19 (polyvinyl chloride), ASTM D6319 (nitrile rubber), and ASTM D6977 (chloroprene rubber).

^b Surgeon's (surgical) gloves must be provided sterile and powderless; products meeting requirements for surgical gloves should have the mark "CE EN455."

^c Surgeon's (surgical gloves) must be provided sterile and powderless.

^d Examination gloves must be provided powderless; products meeting requirements for surgical gloves should have mark of "CE EN455."

^e Gloves must have "CE mark" with certificate to indicate compliance with EN ISO 374-5 and have Level 2 or higher per EN ISO 374-2:2014.

Crisis Capacity Strategies

Use of gloves past their manufacturer-designated shelf life for healthcare delivery

Non-sterile disposable gloves cleared by the FDA are not required to have [expiration date labeling](#); however, some manufacturers choose to designate a shelf life. Facilities may consider using gloves past their manufacturer-designated shelf life for healthcare delivery. Sterile gloves past their manufacturer-designated shelf life should not be used for surgical or other sterile procedures.

Prioritize the use of non-sterile disposable gloves

Non-sterile disposable gloves should be prioritized for use during activities when gloves are recommended to protect the hands from contact with potentially hazardous substances, including blood and body fluids (e.g., wound care, aerosol generating procedures).

Strategies for Optimizing the Supply of Disposable Medical Gloves

Source: CDC April 30, 2020

Facilities may consider suspending use of gloves when entering the room of patients with endemic multidrug resistant organisms (e.g., MRSA, VRE, ESBL-producing organisms). However, HCP should wear gloves when it can be reasonably anticipated that contact with blood or other potentially infectious materials, mucous membranes, nonintact skin, or potentially contaminated intact skin could occur. When HCP are exposed to such MDROs, employers must ensure that hand hygiene protocols are stringently followed. These organisms can be carried on the skin and under the fingernails, leading to transmission to other patients or colonization of HCP.

Consider non-healthcare glove alternatives

In instances of severely limited or no available disposable medical gloves, non-healthcare disposable gloves (e.g., food service or industrial chemical resistance gloves) may be considered for situations where HCP are **not** exposed to pathogens. These gloves are available in many different materials, including polyvinyl chloride, nitrile, and latex. Sizing and limitations to dexterity should be considered. Additional information regarding glove alternatives can be found in [the FDA guidance for medical glove conservation strategies](#). The recommended extended use guidance (below) **does not apply** to non-healthcare glove alternatives.

Extended use of disposable medical gloves

Note: The following extended use guidance applies only to disposable medical gloves and does not apply to non-healthcare glove alternatives.

Extended use of disposable medical gloves by HCP refers to the practice of wearing gloves without changing them between patients or tasks. Disposable medical glove extended wear is most easily implemented when patients are cohorted, such as when caring for a group of patients with the same confirmed infectious disease diagnosis (e.g., patients with confirmed COVID-19) in a shared or adjacent location.

During glove supply crisis gloves can remain on but must be sanitized between patients within the cohort to prevent cross transmission of any other pathogens from patient to patient.

Gloved hands must be cleaned following cleaning procedures described in detail below at intervals where gloves would normally be changed (e.g., when moving from a ‘dirty’ to ‘clean’ task, between patients) or hand hygiene normally performed.

Disposable medical gloves should always be discarded after:

- Visible soiling or contamination with blood, respiratory or nasal secretions, or other body fluids occurs
- Any signs of damage (e.g., holes, rips, tearing) or degradation are observed
- Maximum of four hours of continuous use
- Doffing. Previously removed gloves should not be re-donned as the risk of tearing and contamination increases. Therefore, disposable glove “re-use” should not be performed.

After removing gloves for any reason, hand hygiene should be performed with alcohol-based hand sanitizer or soap and water.

Methods for performing hand hygiene of gloved hands for extended use of disposable medical gloves

CDC does not recommend disinfection of disposable medical gloves as standard practice. This practice is inconsistent with general disposable glove usage, but, in times of extreme disposable medical glove shortages, this option may need to be considered.

Alcohol-based hand sanitizer (ABHS)

ABHS is the preferred method for performing hand hygiene of gloved hands in healthcare settings when the gloves are not visibly soiled. Research has shown multiple disposable latex and nitrile glove brands maintained their integrity when treated with ABHS.[1-2] Disposable medical gloves can be disinfected for up to six (6) applications of ABHS or until the gloves become otherwise contaminated or ineffective (for one or more of the reasons stated in extended use guidance above). Follow [hand hygiene guidance](#) for proper application of ABHS.

Soap and water

Strategies for Optimizing the Supply of Disposable Medical Gloves

Source: CDC April 30, 2020

If ABHS is not available, soap and water can be used to clean donned disposable medical gloves between tasks or patients. HCP planning to wash gloves with soap and water should wear long-cuffed surgical gloves; as washing may be impractical for short cuffed gloves where water may become trapped inside the worn gloves. Disposable medical gloves can be cleaned with soap and water up to 10 times or until the gloves become otherwise contaminated or ineffective (for one or more of the reasons stated in extended use guidance above). Follow [hand hygiene guidance](#) for proper soap and water hand hygiene procedures.

Diluted bleach solution as a disinfectant

Limited data¹ show that when nitrile gloves were tested in accordance with ASTM F739-12: “*Standard Test Method for Permeation of Liquids and Gases Through Protective Clothing Materials Under Conditions of Continuous Contact*” using a 10-13% bleach solution, no permeation was observed.[3] Therefore, disinfection of disposable gloves using diluted bleach may be considered as outlined below.

1. Check gloves for signs of damage (e.g., holes, rips, tearing) or degradation (e.g., brittle, stiff, discoloration, tackiness). If damage or degradation is observed, discard the gloves and do not disinfect.
2. While gloves are donned, dip gloved hands into a [dilute bleach solution](#) for five (5) seconds to ensure complete coverage. Solution should not touch the skin.
3. Allow the dilute bleach solution to remain on the donned gloves for one minute (starting after removing gloved hands from the solution) to ensure adequate decontamination. Leave hands in a downward position to reduce the risk of the bleach solution dripping onto arms.
4. Rinse dilute bleach solution off gloved hands using water.
5. Wipe gloves dry with a clean, absorbent material.
6. Check gloves again for signs of damage (e.g., holes, rips, tearing) or degradation (e.g., brittle, stiff, discoloration, tackiness). If damage or degradation is observed, discontinue use and discard the gloves.

Instructions for making an appropriate dilute bleach solution can be found on the [CDC website](#).

Although a diluted bleach solution has been shown to be effective for disinfecting disposable medical gloves, the odor and potential for respiratory irritation, potential for inadvertent spills, and potential staining of clothing are reasons this should be the last option for disinfection.[4] If disinfection using the diluted bleach method is conducted, it should be done in a well-ventilated area. Diluted bleach solution must be mixed fresh at least daily, and any time the solution becomes soiled with organic material, which can reduce the effectiveness of the bleach. Available permeation data¹ suggests that disposable medical gloves may continue to provide protection when disinfected with diluted bleach solution up to 10 times or until the gloves become otherwise contaminated or ineffective (for one or more of the reasons stated in extended use guidance above).[2-3]

Footnotes

¹ Disposable glove permeation test report provided by the manufacturer (2017; not published).

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