**Please visit the CDC website on strategies to optimize the use of N95 Respirators:**

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html>

**Optimizing the Use of Personal Protective Equipment (PPE)**

**Utilization (**<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/>)

LTCF staff must be provided with the personal protective equipment (PPE) needed to keep themselves and the residents safe, including gloves, gowns, facemasks, respirators (if available and fit-tested), and eye protection.

According to the CDC, for known or suspected COVID-19 cases, respirators (eg, N95 masks) should be “prioritized for procedures that are likely to generate respiratory aerosols” (such as collecting respiratory specimens) and “facemasks are an acceptable alternative when the supply chain of respirators cannot meet the demand."

If respirators are available, facilities should immediately conduct fit testing of healthcare provider staff.

For all residents with undiagnosed respiratory infections, standard, contact, and droplet precautions (including eye protection) should be utilized. It is important to note that the presence of PPE may frighten residents, particularly those who are cognitively impaired. Staff should introduce themselves at the resident’s doorway prior to donning PPE and notify the resident that they will be entering the room with their face covered.

Eye protection, gown, and gloves continue to be recommended.

If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact resident care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP.

**Optimizing the use of PPE**

**(**<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html>)

Existing CDC guidelines recommend a combination of approaches to conserve supplies while safeguarding health care workers in such circumstances. These existing guidelines recommend that health care institutions:

* Minimize the number of individuals who need to use respiratory protection through the preferential use of engineering and administrative controls;
* Use alternatives to N95 respirators (e.g., other classes of filtering facepiece respirators, elastomeric half-mask and full facepiece air purifying respirators, powered air purifying respirators) where feasible;
* Implement practices allowing extended use and/or limited reuse of N95 respirators, when acceptable; and
* Prioritize the use of N95 respirators for those personnel at the highest risk of contracting or experiencing complications of infection.

### Contingency Strategies (during expected shortages)

| Use N95 respirators beyond the manufacturer-designated shelf life for training and fit testing.  Extend the use of N95 respirators by wearing the same N95 for repeated close contact encounters with several different residents, without removing the respirator per [recommended guidance](https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html) on implementation of extended use. Crisis Strategies (during known shortages) **When N95 Supplies are Running Low**  Use respirators as [identified by CDC](https://www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html) as performing adequately for healthcare delivery beyond the manufacturer-designated shelf life.  Use respirators [approved under standards used in other countries](https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/crisis-alternate-strategies.html) that are similar to NIOSH-approved respirators.  Implement limited [re-use](https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html) of N95 respirators by one HCP for multiple encounters with different residents, but remove it after each encounter.  Use additional respirators identified by CDC as NOT performing adequately for healthcare delivery beyond the manufacturer-designated shelf life.  [Prioritize the use of N95 respirators and facemasks by activity type](https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html) with and without masking symptomatic resident’s. |
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### Respirator Extended Use Recommendations

Extended use is favored over reuse because it is expected to involve less touching of the respirator and therefore less risk of contact transmission.

A key consideration for safe extended use is that the respirator must maintain its fit and function. Workers in other industries routinely use N95 respirators for several hours uninterrupted. Experience in these settings indicates that respirators can function within their design specifications for 8 hours of continuous or intermittent use.

If extended use of N95 respirators is permitted, respiratory protection program administrators should ensure adherence to administrative and engineering controls to limit potential N95 respirator surface contamination (e.g., use of barriers to prevent droplet spray contamination) and consider additional training and reminders (e.g., posters) for staff to reinforce the need to minimize unnecessary contact with the respirator surface, strict adherence to hand hygiene practices, and proper Personal Protective Equipment (PPE) donning and doffing technique.

Healthcare facilities should develop clearly written procedures to advise staff to take the following steps to reduce contact transmission after donning:

* Discard N95 respirators following use during aerosol generating procedures.
* Discard N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from residents.
* Discard N95 respirators following close contact with, or exit from, the care area of any resident co-infected with an infectious disease requiring contact precautions.
* Consider use of a cleanable face shield (preferred) over an N95 respirator and/or other steps (e.g., masking residents, use of engineering controls) to reduce surface contamination.
* Perform hand hygiene with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (if necessary for comfort or to maintain fit).

Extended use alone is unlikely to degrade respiratory protection. However, healthcare facilities should develop clearly written procedures to advise staff to discard any respirator that is obviously damaged or becomes hard to breathe through.

### Respirator Reuse Recommendations

There is no way of determining the maximum possible number of safe reuses for an N95 respirator as a generic number to be applied in all cases. Safe N95 reuse is affected by a number of variables that impact respirator function and contamination over time. However, manufacturers of N95 respirators may have specific guidance regarding reuse of their product. The recommendations below are designed to provide practical advice so that N95 respirators are discarded before they become a significant risk for contact transmission or their functionality is reduced.

If reuse of N95 respirators is permitted, respiratory protection program administrators should ensure adherence to administrative and engineering controls to limit potential N95 respirator surface contamination (e.g., use of barriers to prevent droplet spray contamination) and consider additional training and/or reminders (e.g., posters) for staff to reinforce the need to minimize unnecessary contact with the respirator surface, strict adherence to hand hygiene practices, and proper PPE donning and doffing technique, including physical inspection and performing a user seal check.

Healthcare facilities should develop clearly written procedures to advise staff to take the following steps to reduce contact transmission:

* Discard N95 respirators following use during aerosol generating procedures.
* Discard N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from residents.
* Discard N95 respirators following close contact with any resident co-infected with an infectious disease requiring contact precautions.
* Consider use of a cleanable face shield (preferred) over an N95 respirator and/or other steps (e.g., masking residents, use of engineering controls), when feasible to reduce surface contamination of the respirator.
* Hang used respirators in a designated storage area or keep them in a clean, breathable container such as a paper bag between uses. To minimize potential cross-contamination, store respirators so that they do not touch each other and the person using the respirator is clearly identified. Storage containers should be disposed of or cleaned regularly.
* Clean hands with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (if necessary for comfort or to maintain fit).
* Avoid touching the inside of the respirator. If inadvertent contact is made with the inside of the respirator, discard the respirator and perform hand hygiene as described above.
* Use a pair of clean (non-sterile) gloves when donning a used N95 respirator and performing a user seal check. Discard gloves after the N95 respirator is donned and any adjustments are made to ensure the respirator is sitting comfortably on your face with a good seal.

#### When No Respirators Are Left

| Exclude HCP 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 contact with known or suspected COVID-19 residents  Designate convalescent HCP for provision of care to known or suspected COVID-19 residents (those who have clinically recovered from COVID-19 and may have some protective immunity) to preferentially provide care) |
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**Recommended PPE according to setting, personnel and type of activity**

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| **Setting** | **Personnel** | **Activity** | **Type of PPE** |
| **Resident Room** | Health care workers | Providing direct care to COVID19 residents | Medical mask  Gown Gloves  Eye protection (goggles or face shield) |
| Aerosol-generating procedures performed on COVID-19 residents | Respirator N95 or FFP2 standard, or equivalent.  Gown Gloves  Eye protection  Apron |
| Cleaners | Entering the room of COVID-19 residents | Medical mask  Gown  Heavy duty gloves  Eye protection (if risk of splash from organic material or chemicals) Boots or closed work shoes |
| Visitors | Entering the room of a COVID19 resident | Medical mask  Gown  Gloves |
| Other areas of resident transit (e.g. wards, corridors). | All staff, including health care workers | Any activity that does not involve contact with COVID-19 residents | No PPE required |
| Administrative areas | All staff, including health care workers. | Administrative tasks that do not involve contact with COVID-19 residents. | No PPE required |

**Decontamination and Re-use of N-95 using UV Germicidal Irradiation**

**Ultraviolet germicidal irradiation** (UVGI) is a disinfection method that uses short-wavelength **ultraviolet** (**UV**-C) light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.

If your facility utilizes UV Germicidal Irradiation consideration and application to decontaminate N-95 masks may be applicable.

**Please visit:** <https://www.nebraskamed.com/sites/default/files/documents/covid-19/n-95-decon-process.pdf>

Helpful websites:

The Joint Commission: <https://www.jointcommission.org/covid-19/?ref=TJCAL20>

CDC: <https://www.cdc.gov/coronavirus/2019-ncov/healthcare-facilities/index.html>

CMS: <https://www.cms.gov/medicare/quality-safety-oversight-general-information/coronavirus>

John Hopkins Center for Health Security: <http://www.centerforhealthsecurity.org/>