



Updated Coronavirus Disease (COVID-19) Outbreak Personal Protective Equipment (PPE) Guidance - Strategies to Optimize PPE Contingent Capacity Use Recommendations*

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 shortages of eye protection, isolation gowns, facemasks, and/or N95 respirators.

Eye Protection

- ❑ **Selectively cancel elective and non-urgent procedures and appointments for which eye protection is typically used by healthcare personnel (HCP).**
- ❑ **Shift eye protection supplies from disposable to reusable 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. Keeping in mind [specific precautions](#), 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.

Information from <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>. For more information, visit the ADHS website (azhealth.gov/coronavirus) and the CDC website (<https://www.cdc.gov/coronavirus/2019-ncov/>).

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Isolation Gowns

- ❑ **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](#) 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.

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Face Masks

- ❑ **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.

N95 Masks

In the continuum of care, the following measures can be categorized as contingency capacity, which may change daily practices but may not have any significant impact on the care delivered to the patient or the safety of the HCP. The following measures may be considered in the setting of a potential impending shortage of N95 respirators. The decision to implement these practices should be made on a case by case basis taking into account known characteristics of the SARS-CoV-2 and local conditions (e.g., number of disposable N95 respirators available, current respirator usage rate, success of other respirator conservation strategies, etc.).

Personal Protective Equipment and Respiratory Protection

- ❑ **Use of N95 respirators beyond the manufacturer-designated shelf life for training and fit testing.**
 - In times of shortage, consideration can be made to use N95 respirators beyond the manufacturer-designated shelf life. However, expired respirators might not perform to the requirements for which they were certified. Over time, components such as the strap and material may degrade, which can affect the quality of the fit and seal. Because of this, use of expired respirators could be prioritized for situations where HCP are NOT exposed to pathogens, such as training and fit testing. As expired respirators can still serve an important purpose, healthcare facilities should retain all N95 respirators during the early phases of this outbreak.

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❑ **Extended use of N95 respirators**

- Practices allowing extended use of N95 respirators, when acceptable, can also be considered. The decision to implement policies that permit extended use of N95 respirators should be made by the professionals who manage the institution's respiratory protection program, in consultation with their occupational health and infection control departments with input from the state/local public health departments. CDC has [recommended guidance](#) on implementation of extended use of N95 respirators in healthcare settings. Extended use has been recommended and widely used as an option for conserving respirators during previous respiratory pathogen outbreaks and pandemics.
- [Extended use](#) refers to the practice of wearing the same N95 respirator for repeated close contact encounters with several different patients, without removing the respirator between patient encounters.² Extended use is well suited to situations wherein multiple patients with the same infectious disease diagnosis, whose care requires use of a respirator, are cohorted (e.g., housed on the same hospital unit). It can also be considered to be used for care of patients with tuberculosis, varicella, and measles.

❑ **Limited re-use of N95 respirators for tuberculosis**

- [Re-use](#) refers to the practice of using the same N95 respirator by one HCP for multiple encounters with different patients but removing it (i.e. doffing) after each encounter. This practice is often referred to as "limited reuse" because restrictions are in place to limit the number of times the same respirator is reused. It is important to consult with the respirator manufacturer regarding the maximum number of donnings or uses they recommend for the N95 respirator model. If no manufacturer guidance is available, data suggests limiting the number of reuses to no more than five uses per device to ensure an adequate safety margin. N95 and other disposable respirators should not be shared by multiple HCP. CDC has [recommended guidance](#) on implementation of limited re-use of N95 respirators in healthcare settings.
- For pathogens for which contact transmission is not a concern, routine limited reuse of single-use disposable respirators has been practiced for decades. For example, for tuberculosis prevention, a respirator classified as disposable can be reused by the same provider as long as the respirator maintains its structural and functional integrity. To extend the supply of N95 respirators during an anticipated dwindling supply, HCP could be encouraged to reuse their N95 respirators when caring for patients with tuberculosis disease.
- To maintain the integrity of the respirator, it is important for HCP to hang used respirators in a designated storage area or keep them in a clean, breathable container such as a paper bag between uses. It is not recommended to modify the N95 respirator by placing any material within the respirator or over the respirator. Modification may negatively affect the performance of the respirator and could void the NIOSH approval.

Additional Considerations

On March 2, 2020, the FDA issued an [Emergency Use Authorization \(EUA\)](#) to permit the emergency use and distribution of filtering facepiece respirators (FFR), certified by the National Institute of Occupational Safety and Health (NIOSH), that had previously been intended for general use.

On March 24, 2020, the FDA concluded that [certain imported disposable FFRs](#) that are not NIOSH-approved are appropriate to protect the public health or safety.

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