



Extended and Re-use of PPE by Healthcare Personnel (HCP)

COVID-19 transmission mainly occurs from close exposure to an infected person, primarily by respiratory droplets when the person speaks, coughs, or sneezes. Transmission could occur through touching contaminated surfaces and then the eyes, nose, or mouth. Washington State Department of Health (WA DOH) recommends [standard, contact and droplet precautions \(NIOSH-approved, fit-tested N95 respirator or better during aerosol-generating procedures\)](#) when caring for a patient with known or suspected COVID-19.

Personal protective equipment (PPE) (e.g., gowns, gloves, masks) resources are scarce and difficult to procure across the state and country. Healthcare facilities should follow [CDC's Strategies to Optimize the Supply of PPE and Equipment](#) and [Washington State PPE Conservation Strategies](#) in conjunction with this guidance. While these strategies may not match standard practices, risk to the user can be mitigated. The recommendations in this guidance are applicable for all healthcare settings, including but not limited to, hospitals, outpatient settings, long-term care, and EMS.

Extended use is the practice of wearing a piece of PPE for repeated close encounters with several different COVID-19 patients without removing between encounters.

Re-use is the practice of wearing a piece of PPE by one healthcare worker (HCW) for multiple encounters, removing it after each encounter, without cleaning or laundering between encounters.

- Extended use is generally favored over re-use because it is expected to involve less risk of contact transmission during donning and doffing.
- HCP should avoid touching PPE while in use. If PPE is touched, perform hand hygiene before and after.
- PPE may only be reused by the same HCW. PPE should not be shared between HCW.
- PPE should only be reused to care for patients known or suspected of having the same infection. For example, a HCW should not care for a patient with COVID-19 and reuse PPE for a patient with TB. Also discard PPE if a patient is co-infected or colonized with another infectious disease requiring precautions.
- Any PPE that is torn, damaged, or wet must be discarded immediately and not re-used. Also discard immediately and do not re-use an N95 or facemask that becomes difficult to breathe through.
- Discard PPE used during an aerosol generating procedure.
- When donning reused PPE:
 1. Perform hand hygiene.
 2. Don clean gloves (may omit gloves when donning reused PPE if there is a glove shortage).
 3. Remove gloves after donning re-used PPE.
 4. Perform hand hygiene.
 5. Don new clean gloves.
 6. Consider using a face shield (instead of goggles) over a facemask or N95 intended for re-use.
- Not all conservation strategies are suitable for all healthcare settings. See grid below.



Type of PPE	How long can I wear if extended use?	How do I store if re-using?	How many times can I re-use?	Can I decontaminate between uses?	Other instructions
N95 Respirator	8 hours continuously or until visibly soiled	In a clean, breathable container such as a paper bag labelled with the user's name	5 times	Decontamination can be considered, but no data exist supporting effectiveness ¹	Consider 5 respirators per HCW ²
Facemask	Until visibly soiled/damaged up to 1 shift	In a clean, breathable container such as a paper bag labelled with the user's name ³	Until visibly soiled/damaged up to 1 shift	Do not decontaminate as there is no data on effectiveness and damage to the facemask is likely	Facemasks with ties may tear during removal and should be considered only for extended use, rather than re-use
Eye protection	Until visibly soiled, difficult to see through or damaged	After disinfecting, in a dedicated space labelled with the user's name	Until difficult to see through or damaged	Yes, according to manufacturer's instructions ⁴	
Gown	Until visibly soiled and only if caring for patients with the same infectious disease in the same location (e.g., COVID-19 patients in an isolation unit) ⁵	Hang in area where it can be easily accessed and donned when entering the care area.	Until visible soiled up to 1 shift	Cloth gowns should be laundered according to routine healthcare laundry practice ⁶	Disposable gown ties and fasteners typically break during doffing. Cloth isolation gowns could be considered for re-use.

1. Because ultraviolet germicidal irradiation (UVGI), vaporous hydrogen peroxide (VHP), and moist heat showed the most promise as potential methods to decontaminate filtering facepiece respirators (FFR), such as N95s, researchers, decontamination companies, healthcare systems, or individual hospitals should focus current efforts on these technologies. In the absence of guidance or when information is available that a respirator cannot be decontaminated without negatively impacting the performance, respirators may still be decontaminated. However, given the uncertainties on the impact of decontamination on respirator performance, these FFRs should not be worn by HCPs when performing or present for an aerosol-generating procedure. For additional information see [CDC's Decontamination and Reuse of Filtering Facepiece Respirators](#) and [Personal Protective Equipment EUAs](#) on the FDA website.
2. One strategy to mitigate the contact transfer of pathogens from the FFR to the wearer during reuse is to issue five respirators to each healthcare worker who may care for patients with suspected or confirmed COVID-19. The healthcare worker will wear one respirator each day and store it in a breathable paper bag at the end of each shift. The order of FFR use should be repeated with a minimum of five days between each FFR use. This will result in each worker requiring a minimum of five FFRs, providing that they put on, take off, care for them, and store them properly each day. Healthcare workers should treat the FFRs as though they are still contaminated and follow the precautions outlined in our reuse recommendations.
3. **Method 1:** Fold the removed facemask so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. Store the facemask in a clean sealable paper bag or breathable container labelled with the user's name.
Method 2: While holding by one ear loop, place the mask in a clean paper bag or breathable container labelled with the user's name. Using a paper clip or clothes pin, attach the mask to the top inside edge of the bag by the ear loop.
4. When manufacturer instructions for cleaning and disinfection are unavailable, such as for single use disposable face shields, consider:
 - 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.
 - Carefully wipe the outside of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution.
 - Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
 - Fully dry (air dry or use clean absorbent towels).
 - Remove gloves and perform hand hygiene.
5. 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 single HCP caring for multiple patients using one gown or among multiple HCP sharing one gown is unclear.
6. Washable cloth gowns should be laundered according to the facility's policy and [CDC's Guidelines for Environmental Infection Control in Health-Care Facilities – Laundry and Bedding](#).



Resources:

N95
<ul style="list-style-type: none">• Strategies for Optimizing the Supply of N95 Respirators
<ul style="list-style-type: none">• Summary for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response
<ul style="list-style-type: none">• Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings
<ul style="list-style-type: none">• Decontamination and Reuse of Filtering Facepiece Respirators
Facemasks
<ul style="list-style-type: none">• Strategies for Optimizing the Supply of Facemasks
Eye protection
<ul style="list-style-type: none">• Strategies for Optimizing the Supply of Eye Protection
Gowns
<ul style="list-style-type: none">• Strategies for Optimizing the Supply of Isolation Gowns

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