

HCA Healthcare Comprehensive Strategy on Respiratory and Eye Protection for Healthcare Workers Specific to the COVID-19 Response

Purpose

HCA Healthcare Infection Prevention continues to work with supply chain partners in the judicious and safe use of our PPE. With the shortage of N-95 respirators across the enterprise and US, this guidance is being provided in tandem with CDC recommendations (updated 2/29)

This document provides comprehensive guidance for respiratory protection of HCA Healthcare colleagues specifically in reference to caring for COVID-19 Persons Under Investigation (PUIs) or confirmed cases.

N-95 Respirator Limited Re-use Guidelines – WITH 3/16/20 UPDATES

Limited Reuse refers to the practice of using the same N-95 for multiple encounters but removing it ('doffing') after each encounter. The N-95 in question is stored in-between encounters to be put on again ('donned') prior to the next encounter with a patient.

Considerations

- Greatest risk is from contamination by contact and requires extra steps for removal and storage in between uses
- Estimated tolerance for uninterrupted N-95 respirator wear is approximately 1 hour in duration
- Reuse of a single N-95 respirator is limited to a single caregiver for one shift
- Unless in situation of cohorted confirmed positive COVID-19 patients, the mask should be specific for 1:1 care. If patients are cohorted, the same mask can be used to care for the cohorted patients.
 - For example: A single nurse caring for three cohorted COVID-19 patients can use one mask, deliver meds to all three patients, take off and store that mask, and then do the same process four more times before disposing of that mask completely. Note that gowns & gloves should be change in between patients per standard process.
- According to the CDC, N-95 respirators should be re-used no more than five times
- N-95 respirator should be used in conjunction with face shield to provide a physical barrier to contamination
- N-95 respirators should NOT be reused if:

- contaminated with blood, respiratory or nasal secretions, or other body fluids
- compromised, obviously damaged, or difficult to breathe through
- used in an aerosol inducing procedure

PPE Supplies Required

- Gown – standard isolation
- Gloves
- N-95 respirator mask
- Eye protection – **face shield (preferred) or goggles**

Donning with Unused PPE

1. Perform hand hygiene
2. Don gown
3. Don N-95 respirator – carefully pinch nose piece and perform self-fit test around sides
4. Don face shield **or goggles**
5. Don clean gloves
6. Perform patient care

Doffing Eye Protection and N-95 in Reuse Scenario

NOTE: The following steps take place in designated location in proximity to the patient room as appropriate given the facility layout. Consult with IP and Nursing for the appropriate location at your facility.

1. Remove dirty gloves
2. Perform hand hygiene
3. Don clean gloves
4. Disinfect designated counter surface with hospital approved disinfectant wipe
5. Place **two bags or disposable meal cartons** (one for N-95 and one for face shield or goggles) labeled with caregiver name on counter surface
6. **Remove face shield**
7. **Disinfect face shield with low level disinfectant wipe and place on clean counter surface to dry**
8. Remove gloves
9. Perform hand hygiene
10. Don clean gloves
11. Keeping eyes closed, remove N-95 respirator with one hand on face piece and the other on the strap
12. Place skin contact side down in breathable bag or disposable meal carton with strap under skin contact side
13. Remove dirty gloves
14. Perform hand hygiene
15. Don clean gloves
16. Close bag or container
17. **Remove dirty gloves**
18. **Perform hand hygiene**
19. **Don clean gloves**
20. **Store dried face shield or goggles skin contact side down in the second bag (now dried and may be placed in plastic) or disposable meal carton**
21. Doff and discard gloves and gown
22. Perform hand hygiene

23. Store bags or disposable food cartons with N-95 and face shield or goggles in designated area ensuring containers do not touch each other
24. Perform hand hygiene

Re-donning in Eye Protection and N-95 Reuse Scenario

1. Perform hand hygiene
2. Don clean gloves
3. Retrieve bag or container with N-95 respirator
4. Remove dirty gloves
5. Perform hand hygiene
6. Don clean gloves
7. Don gown
8. Carefully remove stored N-95 respirator from paper bag or disposable meal carton with one gloved hand on external side and the other glove capturing the loop
9. While holding external side of mask, apply respirator to face
10. With clean gloved hand loop around head/ears
11. AVOID TOUCHING FACE WITH DIRTY GLOVE**
12. Remove dirty gloves
13. Perform hand hygiene
14. Don clean gloves
15. Carefully pinch nose piece and perform self-fit test around sides of respirator
16. Discard bag or disposable meal carton. A new one should be used each time
17. Remove dirty gloves
18. Perform hand hygiene
19. Don clean gloves
20. Carefully remove stored face shield or goggles from bag or disposable meal carton.
21. Don face shield or goggles over N-95 respirator, careful not to touch your face**
22. Remove dirty gloves
23. Perform hand hygiene
24. Don clean gloves
25. Perform patient care

**If contamination occurs on face/skin, immediately wash area with soap and water

Education Materials

Huddle Card: https://teamrooms.hca.corpad.net/sites/CCA_Team/DownloadsAllHCA/COVID-19/COVID19PPE.pdf?d=wb4aec7544f2e4fb7ab4eed8bdc77811

Instructional Video: https://mediaconnect.medicity.net/media/COVID-19+PPE+Usage/1_xp23gfyn

Use of N-95 Respirators Beyond the Manufacturer-Designated Shelf Life

Some U.S. stockpiles include N-95 respirators that have exceeded their manufacturer-designated shelf life. In times of respiratory protective device shortage, such as during the COVID-19 response, supplies must be managed so that protection against exposure is adequate. Information is provided below that may be used to inform these product release decisions. [Link](#) to full CDC article updated 2/28/20

Considerations

- As part of the collaboration with supply chain partners for the judicious and safe use of our PPE, HCA Healthcare has requested that supplies of N-95 respirators past manufacturer-designated shelf life NOT be disposed of.
- Based on preliminary information gained in a CDC study, many models of N-95 respirators have continued to perform in accordance with NIOSH performance standards after manufacturer-designated shelf life. Accordingly, CDC/NIOSH believes the following products should provide the expected level of protection to the user if the stockpile conditions have generally been in accordance with the manufacturer-recommended storage conditions and an OSHA-compliant respiratory protection program is used by employers.
- HCA Healthcare Division & Facility leaders should work through Supply Chain and EEOC to access any stockpiled supplies.

Steps for Evaluation of N-95 Respirators Past Vendor Shelf Life

- Prior to using N-95 respirators past manufacturer-designated shelf life, consideration should be given to use of other available NIOSH-approved respirators including all types of filtering face piece respirators, elastomeric respirators, or powered air purifying respirators.
- Visually inspect the N95 to determine if its integrity has been compromised.
- Check that components such as the straps, nose bridge, and nose foam material did not degrade, which can affect the quality of the fit, and seal and therefore the effectiveness of the respirator.
- If the integrity of any part of the respirator is compromised, or if a successful user seal check cannot be performed, discard the respirator and try another respirator.
- Users should perform a user seal check immediately after they don each respirator and should not use a respirator on which they cannot perform a successful user seal check.

Steps by Role for Use of N-95 Respirators Past Vendor Shelf Life

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| Supply Chain | Retain inventory, do not discard expired masks |
| | Place into service when in-date supply is dwindling |
| | Match vendor product to minimize fit testing to a different product |
| Facility Designees (Suggest Employee Health, Nursing, IP) | Implement just in time fit testing of the N-95 respirators to a limited number of high risk healthcare personnel (i.e. ER, ICU, etc.) that might need to use the respirators |
| Frontline Staff/ End User | Prior to use, visually inspect the respirator for integrity (strap material, intact foam on nose piece, etc.) and perform a seal check. |

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| | If the integrity of any part of the respirator is compromised, or if a successful user seal check cannot be performed, discard the respirator and try another respirator. |
| | Use only respirators that meet self-seal check. |
| | Follow extended use or limited reuse guidelines |

Note: For facilities using PAPRs or elastomeric respirators in lieu of N-95 respirators, follow manufacturer’s instructions for use and cleaning/disinfection