

PERSONAL PROTECTIVE EQUIPMENT MANAGEMENT COVID-19 TESTING SITES

Trigger Point for Implementing Equipment Management Procedures

When the test site has **less than a 21-day supply of N95 respirators and other essential PPE** in the presence of an increase in demand and a decrease in the available supply chain, decontamination and re-use procedures should be implemented.

N95 Respirators Decontamination and Reuse:

Hydrogen Peroxide Vaporization

Hydrogen peroxide vapor (HPV) decontamination has been shown in pilot studies to allow multiple cycles of N95 processing with acceptable preservation of function. This process cannot be used with N95s manufactured with cellulose. It is being utilized in industrial facilities such as [Battelle](#) (up to 20 cycles) as well as individual hospitals via [Sterrad](#) (up to 2 cycles) or [Steris](#) equipment (up to 10 cycles). This method is FDA approved as an emergency method for healthcare personnel during the COVID-19 pandemic and manufacturer 3M has deemed it acceptable per manufacturer's recommendation.

Steps for N95 Decontamination using the Battelle System (when available):

- Facilities must have a [signed service agreement](#) (PDF) with Battelle. Once Battelle has received a signed agreement, Battelle will issue a three-digit site code ID to the medical facility.
- On-Site Collection
 - Facility creates a N95 respirator collection station at the point of generation.
 - Any N95 or N95-equivalent respirator that does not contain cellulose-based materials is compatible with the Battelle Decontamination System. A list of cellulose containing N95s is available [here](#).
 - All compatible N95 respirators must be free of any visual soiling or contamination (e.g. blood, bodily fluids, makeup).
 - Compatible N95 respirators that are visually soiled or damaged should not be collected for decontamination and will be disposed of and not returned after decontamination.
- Each station should have a bag provided by the facility to collect compatible N95 respirators.
 - Bags are for compatible N95 respirators only. Do not put other personal protective equipment (such as gloves), paper towels, or waste in the collection bag.
- With a permanent marker, each compatible N95 respirator should be labeled with a three-digit site code and a 2-digit location identifier (as shown below).

_____ Site Code ID (Assigned by Battelle POC)	--	_____ Site Location ID (Assigned by Facility)
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Preparation for Shipment or Pick-up:

- Bags containing the contaminated compatible N95 respirators to be decontaminated ("primary collection bag") should be closed.
- Place the primary collection bag into another bag ("secondary collection bag"), which is then closed.
- Decontaminate the secondary collection bag with alcohol or other suitable decontaminant.
- Place the decontaminated bags into a rigid, closed box clearly labeled with a biohazard symbol, and tape the box securely shut.
- Label the outside of the box with the 3-digit site code and 2-digit location identifier.
- Facility specific shipping information can be found on page 18 of [Battelle's Informational Packet](#).

Reuse Information

- Following decontamination, each facility will be provided the decontaminated N95 respirators they submitted. The facility should inspect each returned decontaminated N95 respirator for visible damage or soiling. If visually damaged or soiled, decontaminated N95 respirators should be discarded and not reused.
- Additionally, staff should be reminded of the following:
 - Clean hands with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the N95 respirator.
 - Avoid touching the inside of the N95 respirator.
 - Use a pair of clean (non-sterile) gloves when donning and performing a user seal check.
 - Visually inspect the N95 respirator 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.
 - If the integrity of any part of the N95 respirator is compromised, or if a successful user seal check cannot be performed, discard the N95 respirator.

In the event that approved decontamination techniques (hydrogen peroxide vaporization, ultraviolet C light treatment, or dry heat) are not available, the procedure below is suggested by the CDC.

- Assign each person **FIVE** N95 respirators for use on a rotating schedule. N95 re-use is acceptable for Covid-19 specimen collection (all patients are suspected of the same infection). Coronaviruses have now been shown to lose significant viability after 72 hours.
- N95s may be worn continuously for up to 12 hours if the respirator remains clean and easily breathable. Always discard the N95 if it is soiled with blood or other patient secretions, or damaged in any way.

- Store respirators between uses in a clean, sealable paper bag or breathable container for **>=72 hours** to dry. Make sure the masks do not touch each other, and do not share respirators.
- Each bag or container should be labeled with the user's name, date last used, and number of cycles of reuse for that respirator.
- Respirators may be re-used up to **five times** per CDC.
- Use careful hand hygiene before and after each re-use of the N95, and practice careful doffing and donning.
- A [user seal check](#) should be performed before each use. Loss of fit with re-use varies by N95 make and model.

Face Shields (or if not available, safety glasses or goggles):

Face shields, safety glasses and goggles may be cleaned and recycled using the following method:

- Use clean gloves and a cleaning wipe or a clean cloth with neutral detergent solution
- Carefully wipe the inside, then the outside of the shield
- Then wipe the outside with hospital grade disinfectant
- Then wipe the outside with alcohol or clean water and air dry
- Discard gloves or careful hand wash

Gowns:

Gowns should not be re-used except at the direction of the Napa County Health Officer when supplies become critically low. In the event that gowns need to be re-used, follow the steps listed below.

- Paper or plastic gowns and coats can be re-used as long as they are not visibly soiled. Gown re-use is acceptable for Covid-19 tests (all patients are suspected of the same infection).
- For gown removal, hand wash carefully or don clean gloves
- Untie and remove gown by pulling sleeves forward
- Hang the gown in an open area not in contact with other garments
- Carefully remove gloves or hand wash

Gloves:

Non-sterile disposable exam gloves are appropriate for testing possible Covid-19 patients. CDC does not recommend re-use of disposable exam gloves.

References:

CDC: PPE questions: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirator-use-faq.html>

Guidelines on extending the life of N95s.

<https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html>

NIOSH: N95 re-use

<https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html>

Registered Nursing: <https://www.registerednursing.org/how-reuse-ppe/>

SAGE (5/11/20): N95 re-use instructions: <https://www.sages.org/n-95-re-use-instructions/>

3M (May 1, 2020): <https://multimedia.3m.com/mws/media/1824869O/decontamination-methods-for-3m-filtering-facepiece-respirators-technical-bulletin.pdf>

95DECON (Consortium with Harvard, UCSF, Stanford & more) (May 1, 2020):

www.n95decon.org

OSHA (5.11.20): OSHA has published an enforcement memorandum indicating that during the COVID-19 pandemic, U.S. employers may consider using certain decontaminating methods in their procedures for reusing N95s. This dispensation stands only if employers have exhausted many other options – such as the strategies recommended by the CDC – to reduce the need for respiratory protection and/or manage the use of respirators to try to ensure adequate supply. OSHA emphasizes that employers should look to respirator manufacturers for guidance regarding which decontamination methods are compatible with specific respirator models.