

JB Pritzker, Governor

Ngozi O. Ezike, MD, Director

When there is a critical shortage of respirator equipment (N-95 respirators and PAPR hoods), re-use or extended use of these items is **necessary** to continue patient care activities while also protecting healthcare workers. Safe single-person reuse of N-95 masks is possible and CDC guidelines exist with recommendations to guide this process.

With this information, the Illinois Department of Public Health is directing all Illinois hospital and pre-hospital care settings to **IMMEDIATELY** implement conservation strategies to extend the use of N95 masks and PAPRs in all healthcare settings.

Supplies of N-95 respirators and PAPR hoods are in increased demand in critical settings during infectious diseases outbreaks. Existing CDC guidelines recommend a combination of approaches to conserve supplies while safeguarding health care workers in such circumstances. In these situations, existing guidelines recommend that health care institutions and EMS providers:

- Minimize the number of individuals who need to use respiratory protection through the preferential use of engineering and administrative controls;
- Use alternatives to N-95 respirators and PAPR's where feasible;
- Implement practices allowing extended use and/or limited reuse of N-95 masks and reuse of PAPR hoods, when acceptable

Re-use N-95 masks under the following conditions:

- N-95 respirators must only be used by a single user
- Standards for fit testing have been relaxed
- Use a full-face shield or a surgical mask over an N-95 respirator to reduce surface contamination of the respirator.
- Keep used respirators in a clean breathable container **between uses**.
- Store respirators so that they do not touch each other. Staff will write their name on the bag and/or on the elastic straps so the person using the respirator is clearly identified. (Do NOT write on the actual mask)
- Storage containers should be disposed of or cleaned each time mask is removed.
- Always use clean gloves when donning a used N-95 respirator and performing a user seal check.
- Perform hand hygiene over gloves before and after touching or adjusting the respirator (if necessary for comfort or to maintain fit).
- Discard gloves after the N-95 respirator is donned and any adjustments are made to ensure the respirator is sitting comfortably on your face with a good seal. Perform hand hygiene after removing gloves.

- Avoid touching the mask. Anytime one touches the N-95, it is necessary to perform hand hygiene as described above.
- **Update!!** Considerations can be made for longer use if the seal check (instructions below) is performed and integrity is maintained, otherwise it needs replaced immediately.
Organizational or agency policies should be followed regarding extended use.

Discard and DO NOT ReUSE N-95 respirators if:

- Contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.
- The straps are stretched out, so they no longer provide enough tension for the respirator to seal the face
- If the nosepiece or other fit enhancements are broken
- The respirator that is obviously damaged or becomes hard to breathe through

UPDATE!! To Extend the Use and Ensure Safety of the Provider the User can perform a SEAL CHECK for the N-95 Mask:

- A user seal check takes less than a minute to perform, and it can go a long way in making sure the wearer stays protected.
- NIOSH explains that there are two ways to test the seal: a positive pressure or a negative pressure check.
- To perform a positive pressure check, the wearer should press down on the sides of the facepiece to ensure no air can enter. Then, they should exhale gently.
- A successful fit should cause the respirator to become slightly pressurized before the air leaks out.
- In a negative pressure seal check, the user should inhale quickly while pressing down on the sides of the mask to prevent air from entering.
- In a successful check, the mask should collapse slightly when this negative pressure is created.
- While it may seem small, it's important for any healthcare providers to complete this check before wearing their respirator.
- Sometimes respirators can be more complex and are not able to be tested with a simple seal check. The manufacturer's instructions for the respirator should note how to perform a user seal check.
- **Visual Instructions can be found here - <https://www.cdc.gov/niosh/docs/2018-130/pdfs/2018-130.pdf?id=10.26616/NIOSH PUB2018130>**

Re-use of PAPR Hood Respirator:

- PAPR hoods will be used one by one staff person during their shift, then reprocessed.
- After use, doff per procedure, and collect PAPR hoods in designated bin or bag. Reprocess per institutional policy following PAPR hood cleaning

DO NOT Reuse PAPR Hood if:

- Contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.
- Tears or broken components are noted upon visual inspection

****Clean PAPR hoods per institutional policy**

NEW !! Optimizing Supplies of Procedural/Surgical Facemasks:

- Engineering and Administrative Controls –
 - Reduce patients
 - Exclude non-essential personnel from care areas
 - Reduce face to face encounters
 - Exclude visitors that may need to use PPE
 - Maximize telemedicine
 - Employees should demonstrate competency to don and doff PPE correctly
- Use according to product labeling and local, state, and federal requirements
- Selectively cancel elective and non-urgent procedures that would require use of a facemask by healthcare providers or visitors
- Remove facemasks for visitors in public areas such as waiting areas
- Implement extended use of facemasks
 - Remove if soiled, damaged, or hard to breath
 - Do not touch facemasks
 - Immediately leave care area if mask is removed
- Facemasks that hook around the ears are more suitable for re-use
- Prioritize re-use for activities such as:
 - Essential surgeries or procedures
 - Care activities that involve splashes or sprays
 - Prolonged face to face contact with potentially infectious people
 - Aerosolizing procedures, if respirators not available

New !! How to clean goggles/disposable face shields:

- May be reused going from patient room to patient room
- Disinfect upon leaving the care area of a patient in contact or enteric precautions
- Upon removal wipe with a hospital approved disinfectant. Allow to air dry

New!!! When No Gowns are Available:

Consider using gown alternatives that have not been evaluated as effective.

In situation of severely limited or no available isolation gowns, the following pieces of clothing can be considered as a last resort for care of COVID-19 patients as single use. However, none of these

options can be considered PPE, since their capability to protect HCP is unknown. Preferable features include long sleeves and closures (snaps, buttons) that can be fastened and secured.

- Disposable laboratory coats
- Reusable (washable) patient gowns
- Reusable (washable) laboratory coats
- Disposable aprons
- Combinations of clothing: Combinations of pieces of clothing can be considered for activities that may involve body fluids and when there are no gowns available:
 - Long sleeve aprons in combination with long sleeve patient gowns or laboratory coats
 - Open back gowns with long sleeve patient gowns or laboratory coats
 - Sleeve covers in combination with aprons and long sleeve patient gowns or laboratory coats

Reusable patient gowns and lab coats can be safely laundered according to [routine procedures](#).

- 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)

Unconventional Strategies for awareness:

- Cover N-95 with a surgical mask to prevent soiling
- Ultraviolet Germicidal Irradiation (UVGI) for Decon and reuse of masks
- Crisis strategy – use of cloth masks

References:

IDPH COVID 19: <http://dph.illinois.gov/covid19>

CDC COVID 19: <https://www.cdc.gov/coronavirus/2019-ncov/index.html>

UNMC: <https://www.nebraskamed.com/for-providers/covid19>

UW Medicine: <https://covid-19.uwmedicine.org/Pages/default.aspx>

New!!! Checklist for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/checklist-n95-strategy-h.pdf>

New!!! Strategies for Optimizing the Supply of PPE

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