Optimal use of N95 Filtering Facepiece Respirator and Ultraviolet Germicidal Irradiation (UVGI) Process for Decontamination and Reuse (12/05/2020)

Overview:

The recommendations in this guidance are temporary while there are national and international shortages of personal protective equipment. Face masks include disposable procedure masks and surgical masks. Respirators include powered air purifying respirators (PAPRs) and disposable N95 respirators. These guidelines apply to all health care personnel (HCPs) who need to wear respiratory protection during patient care or as a requirement of their work responsibilities.

Purpose:

- To prevent a shortage or exhaust our supply of facemasks, respirators protection.

- To ensure that our staff have access to the necessary supplies to perform patient care safely.

Definitions:

- **Extended** use refers to the practice of wearing the same respiratory protection (respirator, PAPR, facemask) encounters with more than one patient without removing the protective equipment between the encounters. Extended use may be implemented when caring for multiple patients and when patients are placed together in dedicated hospital units or clinics.

- **Reuse** refers to the practice of using the same face mask for multiple encounters with patients but removing it ('doffing') between at least some of the encounters. The facemask and eye protection are stored between encounters and reused.

 Re-use of face masks will be permitted. Face masks may be stored safely between uses and reused.

- **UV Decontamination** refers to the decontamination procedure involving the delivery of ultraviolet germicidal irradiation (UVGI) to used N95 respirators.

Precautions

- Provide surgical mask to suspected case.
- Avoid touching the N95 mask while delivering patient care.
- Cover N95 with medical mask while doing aerosol generating procedure
- Clean hands with soap and water or an alcohol-based hand sanitizer **before and after** touching or adjusting the mask.
- Use a cleanable face shield over an N95 mask.

Storing N95 for further use

- Label your **name and start date of use** of N95 mask on its strap (Must be used by a single user ONLY)
- Follow the appropriate instructions for doffing of N95 mask.
- Store N95 mask in a **breathable paper bag** between uses (Do not use a plastic bag). Label the bag with name and department
- Please keep the strap of the N95 outside the paper bag
- Avoid touching **the inside** of the mask.
- Place the bag in designate place for reuse or decontaminatoin

Reuse of N95 after store

- Hand Washing or use of sterilizer or Use non-sterile gloves when applying ("donning") a used N95 mask and performing a user seal check. Discard gloves after the N95 mask is donned.
- Tear the paper bag and discard it
- Take out the N95 and put it on
- Perform hand hygeine

When to Discard the N95 mask

- Discard N95 mask **contaminated** with blood, respiratory or nasal secretions, or other bodily fluids from patients.
- Discard any mask that is obviously **damaged** or becomes hard to breathe through or the elastic straps are loose.

When to decontaminate?

- Decontamnate N95 mask following use during **aerosol generating procedures** (suctioning of respiratory tract, bag and mask ventilation, intubation and CPR) if no use of medical mask over it in case of suspected/confirmed cases
- N95 respirators decontamination is done in Central Supply Sterilization Department.
- Send the paper with labelled with name and department to CSSD
- Staff carrying the all used respirators should wear gloves only
- Doff the gloves at CCSD and should perform hand hygiene

Decontamination Process at CSSD

- CSSD Staff should don PPE (gown, gloves, surgical mask) for contact precautions.
- Ensure the necessary paper bag required before taking back the mask.
- Thoroughly wipe empty chamber with Disinfection solution (0.4% Virex).
- Gently position the N95 respirators in the UV chamber. Ensure N95 respirators do not touch each other during any part of reprocessing.
- Press Start button on the UVGI chamber. The UV light will begin progressively faster for ~ 60 seconds. UV dosage should reach at least 300mJ/cm^2.
- The N95 respirators should be kept for 60 minutes (cycle time).A metallic smell is normal during UV Torch operation.
- Note elapsed time and total dosage on process log sheet. Note: Prolonged UVGI exposure may degrade elastic straps.
- Don gloves while handling the N95 respirators and make sure the new clean paper bag should be ready.
- Deposit N95 respirators into a new paper bag, indicating owner and return it to the concerned person. Staple bag shut.
- Indicate process finish time, number of respirators processed, and other notes as indicated on process log sheet.

Upon Completion of Decontamination Process:

- The Decontamination unit calls contact person, provided on log sheet, to notify that department/unit decontaminated respirators are ready for pick up.
- Staff courier dons gloves and retrieves decontaminated respirators from the Decontamination Unit's designated clean pick up area.
- Decontaminated respirators are in new bags displaying HCP's and return location.
- Staff courier logs name and time of pick up on the log sheet
- New bags are returned to department/unit designated clean pick up location.

> ➢ **Time allocation: Collection time (11:00 to 12:00)**
>   **Decontamination time is (13:00 to 14:00)**
>   **Return back time is (14:00 to 15:00)**

Reference:

1. Retrieved from: https://www.nebraskamed.com/sites/default/files/documents/covid-19/n-95-decon-process.pdf
   Date accessed: April20, 2020

2. Retrieved from: Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health(NIOSH)
   https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html
   https://www.cdc.gov/niosh/topics/hcwcontrols/pandemic-planning.html
   Date accessed: April24, 2020

3. Retrieved from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html
   Date accessed: April24, 2020