TEMPLATE

N95 Filtering Facepiece Respirator Ultraviolet Germicidal Irradiation Process

The Coronavirus Pandemic has left hospital employees in an unprecedented predicament. Employers are unable to secure sufficient number of personal protective equipment (PPE) because the worldwide and national demand has far exceeded the supply. PPE that was stocked in anticipation of a pandemic has been depleted. Employees and employers are forced to use methods not considered in normal times. We have decided to allow decontamination of selected PPE. This procedure describes the use of ultraviolent light for decontamination of N95 respirators.

1. N95 filtering facepiece respirators initially designed to be disposable will be decontaminated.
2. Respirators will be collected per facility policy to eliminate contamination by staff. Consider storage and transport vessels as well as staff movement.
3. The respirator owner's identity will be displayed on the respirator.
4. Respirators will be decontaminated using ultraviolent germicidal irradiation using 254nm bulbs that produce 200 microwatts/cm2 at 10 feet distance for a dosage of 12 mJ/minute. Irradiation directed at the mask surfaces should exceed the target inactivation exposure of 2/5 mJ/cm2.
5. A meter will be used to validate the exposure at the position(s) measuring the lowest amount of irradiation.
6. Cycles that do not meet the specifications will be reprocessed or disposed.
7. The respirators can be reprocessed until the fit is compromised or otherwise unsuitable to use the respirator.
8. The number of times a respirator is decontaminated will be maintained.
9. The facility will document the length of time, dosage, owner name of respirator, date & time of processing, quality control and other parameters as needed. It is necessary that traceability is maintained.
10. Staff will be protected from UVGI light. Staff will have no exposure to UVGI light.
    a. Consider remote or delayed start and stop cycle. Prevent staff from entering room when UVGI light is activated.
11. A room, cabinet or other enclosure may be used for decontamination. Consider a UV-reflective coating on the walls of the room.
12. Respirators will be exposed to UVGI light for at least 5 minutes on each side of the respirator.
13. Minimize surface area of any clip used to hang the respirator during UVGI light.
14. Respirators will be delivered to individuals per facility policy.

References:
N95 Filtering Facemask Ultraviolet Germicidal Irradiation (UVGI) Process for decontamination and Reuse, Nebraska Medicine by John J Lowe and others. Accessed by Lynn Franks March 2020. https://www.nebraskamed.com/sites/default/files/documents/covid-19/n-95-decon-process.pdf