



Summary & Purpose:

Baptist Health South Florida's policy 680.16, *Respiratory Protection Program and Medical Evaluation for Fit Testing*, addresses the requirements under the Occupational Safety and Health Administration (OSHA) standard for respiratory protection, 29 CFR 1910.134. In the event of a pandemic, National Institute for Occupational Safety and Health (NIOSH)-certified reusable respirators may be used, in addition to N-95 respirators. This appendix addresses specifically the required training and fit testing, inspection, cleaning and disinfecting of NIOSH-approved reusable respirators during a pandemic.

Scope/Applicability:

This appendix applies to all employees already included under BHSF's Respiratory Protection Program, 680.16 policy, and who received appropriate training and fit testing for the specific reusable respirator to be used during a pandemic. This includes hospital-employed physicians and contract workers that provide direct patient care.

Procedures to Ensure Compliance:

1. Definitions (OSHA's *Respiratory Protection* standard, 29 CFR 1910.134):
 - a. Air-purifying respirators: an air-purifying respirator is one with air-purifying filter, cartridge, or canister that removes specific air contaminant by passing ambient air through the air-purifying element. N95s, reusable half/full-face respirators (e.g., "N99s") and PAPRs are all air-purifying respirators.
 - b. Powered air-purifying respirator (PAPR): an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.
 - c. Fit test: means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT).
 - d. Qualitative fit test (QLFT): a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
 - e. Quantitative fit test (QNFT): an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
 - f. High efficiency particulate air (HEPA) filter: a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
2. When respiratory protection is required, a NIOSH certified respirators must be used by BHSF staff. To see if your respirator is NIOSH-certified, look for the NIOSH logo as well as the test and certification approval number, or TC number. The logo and TC number can be found on the respirator's package or the user instruction insert, and sometimes they appear directly on respirator components, such as the respirator filter or cartridge.

3. In accordance with OSHA's *Preparing Workplaces for an Influenza Pandemic* (OSHA 3327) guidance and BHSF Policy Strategies for Optimizing Supply of Personal Protective Equipment During COVID-19, if a sufficient supply of N95s respirators is not available (or in anticipation) during a pandemic, BHSF staff may use reusable respirators.
4. Although these reusable respirators provide the necessary level of protection to the wearer, they should not be used in sterile area or be provided to patients.
5. Any air-purifying respirator, when properly selected and fitted, will significantly reduce, but will not completely eliminate, the breathing of contaminant(s) by the respirator wearer. Respirators do not provide protection to exposed areas of the body. Therefore, the use of specialized eye, hand and/or body personal protection equipment may be required.
6. Occupational Health will conduct medical clearance evaluation, if necessary, and fit testing (qualitative or quantitative)
7. While these respirators are being used, immediately leave the contaminated area if:
 - a. Breathing becomes difficult;
 - b. Dizziness or other distress occurs, or
 - c. The respirator becomes damaged
8. Training/education respirator use:
 - a. Training for medically cleared employees will be provided by Occupational Health during fit testing
 - b. Corporate Emergency Preparedness and BHSF Infection Control provide additional training online
 - c. Training on the reusable respirators will include:
 - i. Instructions on proper fit,
 - ii. Care/storage,
 - iii. Inspection and cleaning
 - iv. Utilization training, which includes how to recognize when a reusable respirator is not functioning adequately
9. Cleaning and disinfecting (during a pandemic):
 - a. Follow your hospitals cleaning and disinfecting protocols, to include using designated area for cleaning and storage.
 - b. Never allow respirator cartridges to come in contact with water or cleaning and sanitizing solutions. Moisture can damage the cartridges and expose the user to the risk of serious illness or injury.
 - c. Cleaning and disinfecting before and after each use:
 - i. In accordance to OSHA's *Respiratory Protection Program*, 29 CFR 1910.134 (h) (1), reusable respirators used by more than one person shall be cleaned and disinfected before and after each use.
 - ii. The above shall be performed using disinfectant in accordance with manufacturer's instruction for use (IFU) or using EPA-approved disinfectants wipes adhering to required contact time.
 - d. Disassembly and Cleaning:
 - i. Disassembly and cleaning to take place in designated cleaning area as assigned by Department Leader at the end of the individual's shift.
 - ii. At the end of each day/shift, or when deemed necessary by BHSF Infection Control, disassembly and cleaning is to take place.

- iii. After cleaning with EPA-approved wipes observing contact time, if disassembling and cleaning, assigned individual(s) should perform the following:
 - a) Remove cartridges from the connectors. **Do NOT allow the filters to get wet**
 - b) Remove the headband assembly, inhalation/exhalation valve guard, valve and valve seat from face piece
 - c) If necessary, clean face piece and components with EPA-approved disinfectants, and dry the parts before returning to service/ storage.
 - d) Rinse all components completely in clean warm water, then air dry in a clean area. Visually inspect all components for damage. Replace if necessary. **Store in designated storage area**

10. Cartridges/filters and replacement frequency (during a pandemic):

- a. Classification:
 - i. “**N**” means not resistant to oil;
 - ii. “**R**” means somewhat resistant to oil; and
 - iii. “**P**” means strongly
- b. Rating:
 - i. **95**: removes 95 percent of particles
 - ii. **99**: removes 99 percent of particles
 - iii. **100**: removes 99.97 percent of particles

Note: Using this classification method, an N95 filter is not resistant to oil and removes at least 95 percent of the most-penetrating particles. If you use a PAPR, the high efficiency particulate air filter, or HEPA filter that is attached to your unit, is similar to a P100 filter.

- c. Replacement and removal (during a pandemic):
 - i. **Replacement:** a cartridge on the reusable respirator should be replaced if it has been obviously soiled or damaged (e.g., creased or torn) and unable to function properly. During a pandemic, Corporate Emergency Preparedness and BHSF Infection Control may provide replacement frequency in 30-day increments, if appropriate.
 - ii. **Removal:** the cartridges are not to be removed from the respirator unless disassembly and cleaning is necessary.

11. Assembling the respirator:

- a. Remove the face piece assembly from its container and visually check the facepiece to make sure that the sealing flange is not distorted and that all components, including the exhalation valve, are in place and in good condition
- b. To assemble the respirator, attach the appropriate air-purifying cartridges onto the connectors mounted on the facepiece. Check to be sure that the cartridges are effectively sealed against the facepiece (Figure 1)

12. Donning the half-face respirator:

- a. Only put on your respirator in an uncontaminated area
- b. Visually check the respirator to make sure all major components are in place and in working condition

- c. Verify the correct cartridges are being used and they are securely attached to the face piece
- d. Assure respirator is positioned correctly on your face
- e. Remove eyewear and any head gear before putting on the respirator. Replace after you put on the respirator
- f. For the Honeywell/North 5500/7700 half-face respirator, follow the following as well, after performing hand hygiene:
 - i. Adjust the respirator head straps and clips to their full outward position
 - ii. With one hand holding the respirator, place your chin inside the chin cup and the top of the respirator over your nose.
 - iii. With the other hand, position the plastic straps so they are centered on your head. Remove any slack in the upper straps by pulling the two end tabs, back and toward your ears. Do not tighten
 - iv. Fasten the bottom elastic straps behind your neck and under your hair. Remove any slack in the bottom straps by pulling the end tabs. Do not tighten.
 - v. Tighten the upper head straps in small equal increments to ensure the top half of the respirator is tightened evenly and it is snug, comfortable and centered on your face (Figure 2)
 - vi. Tighten the lower head straps by pulling evenly on the end straps in the back of the respirator until the entire respirator is snug, comfortable and centered on your face (Figure 3).
 - vii. Pull the respirator away from your face and maneuver it to assure it is centered, comfortable and snug. A final small adjustment may be made, by again tightening the upper and lower straps
 - viii. The plastic loops on the top straps slide back to hold down any loose strap material.
 - ix. Perform a positive seal check (Figure 4) to make sure that components are functioning properly.*

* Per OSHA's 29 CFR 1910.134 (Appendix B-1), the individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

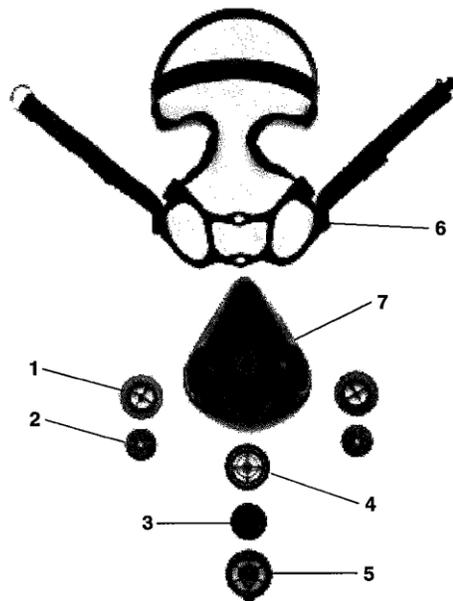
13. Doffing the half-face respirator:

- a. Go to an uncontaminated area
- b. Loosen headbands and remove the face piece

14. Storage the half-face respirator:

- a. Store the half-face respirator (with cartridges) in a clean, dry area/paper bag in the designated area
- b. Caution: Do not expose the respirator to excessive heat (above 140 deg F), moisture, or contaminating substances during storage. Excessive heat may distort the facepiece and components resulting in the inability to achieve a proper fit

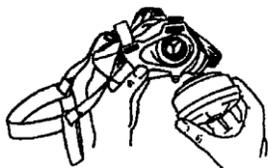
15. Major components of half-face respirators:



Item#	Description
1	Inhalation Connector
2	Inhalation Valve
3	Exhalation Valve
4	Exhalation Valve Seat
5	Exhalation Valve Guard
6	Cradle Suspension System
7	Basic Facepiece, Small/Medium/Large

13. Figures:

a. Figure 1 (Attaching air-purifying elements)
Respirator)



Attaching Air-Purifying Elements

b. Figure 2 (Putting on the



c. Figure 2 and 3: Position the narrow portion of the respirator on your nose bridge and place the cradle suspension system on your head so that the top headband rests across the top of your head and the bottom headband rests above your ears, on the back of your head. Then hook the bottom headband behind your neck, below your ears, and adjust the position of the facepiece on your face for best fit and comfort.

c. Figure 3



d. Figure 4 (Positive Pressure Seal Check)



Figure 4: In order to prevent exposing the filters to moist/ oils, do not perform a negative pressure seal check. To conduct a positive pressure seal check, block the openings in the exhalation valve guard using the palm of your hand and simultaneously exhale. If the facepiece bulges slightly and no air leaks between the facepiece and your face are detected, an effective seal has been obtained. If air is detected to be leaking out between the facepiece and your face, reposition the facepiece on your face and/or readjust the tension of the headbands to eliminate the leakage. This check must be repeated until an effective seal of the facepiece to your face is obtained.

Related Policies, Supporting/Reference Documentation:

- Baptist Health South Florida's policy 680.16, Respiratory Protection Program and Medical Evaluation for Fit Testing
- Baptist Health South Florida's administrative policy 40, Pandemic Preparedness Plan
- Baptist Health South Florida's administrative policy, Strategies for Optimizing Supply of Personal Protective Equipment (PPE) During COVID-19 Pandemic
- OSHA's *Respiratory Protection* standard, 29 CFR 1910.134
- OSHA's *Guidance on Preparing Workplaces for an Influenza Pandemic* (OSHA 3327-05R 2009)
- North's 5500 & 7700 Half Mask Air-Purifying Respirator User's Instructions
- Centers for Disease Control and Prevention (CDC), Healthcare Supply of Personal Protective Equipment, CDC's *Strategies for Optimizing the Supply of PPE*.