Use of Expired N-95 Respirators

June 29, 2020

Prior to using an expired N95 Respirator:

- End users must perform a seal check after donning the respirator
  - Do not use if they cannot perform a successful seal check
- Confirm that the N95 respirator is one from the NIOSH list below.
- Inspect the N95 respirator to determine if integrity was compromised.
  - The respirator should appear to be new and have no water damage
  - Assess previous storage conditions such as temperature, moisture, exposure to sunlight, damage to shrink wrap on the pallet and dirt
  - Inspect the box for intactness.
  - If the respirator or box do not meet all these conditions, do not use the respirator.
- Check components of the N95 respirator such as straps and nose bridge to make sure they did not degrade during storage. This could compromise the seal of the respirator.
  - If the straps are degraded, replace them if you are able.
  - Be sure the end user still performs a seal check.

Per the CDC:
"In times of shortage, consideration can be made to use N95 respirators beyond the manufacturer-designated shelf life. However, expired respirators might not perform to the requirements for which they were certified. Over time, components such as the strap and material may degrade, which can affect the quality of the fit and seal. Because of this, use of expired respirators could be prioritized for situations where HCP are NOT exposed to pathogens, such as training and fit testing. As expired respirators can still serve an important purpose, healthcare facilities should retain all N95 respirators during the early phases of this outbreak”.¹

Per NIOSH Study:
A preliminary NIOSH study has found that several brands of N95 respirators continued to perform in accordance with NIOSH performance standards despite being outside the manufacturer’s expiration date.

Regarding the NIOSH Study²

- 40,000 respirators were tested from 10 stockpile facilities
- N95 respirators were manufactured between 2003-2013
- A total of 3,619 out of 3,695 (i.e., 98%) passed filtration performance across ten facilities with conditions that both met and deviated from recommended storage conditions

Note: NIOSH does not require approval holders to designate a shelf life, although some choose to do so. Additionally, many approval holders designated a shelf life after the models sampled from these stockpiles were manufactured
The tested N95 respirators that still performed in accordance with NIOSH performance standards are as follows:

<table>
<thead>
<tr>
<th>3M 2860</th>
<th>Gerson 1730</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M 1870</td>
<td>Medline/Alpha</td>
</tr>
<tr>
<td>3M 8210</td>
<td>Protech NON27501</td>
</tr>
<tr>
<td>3M 9010</td>
<td>Moldex 1512</td>
</tr>
<tr>
<td>3M 8000</td>
<td>Moldex 2201</td>
</tr>
</tbody>
</table>

Per OSHA:

**Use of expired N95 Respirators:**
In the event that N95 Respirators are not available and the employer has shown a good faith effort to acquire the respirators or to use alternative options, as outlined below, CSHOs should exercise enforcement discretion for the use of N95 Filtering Facepiece Respirators (FFRs).

- Employers may use only previously NIOSH-certified expired N95 respirators found at www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html. Workers should be notified that they are using expired N95 respirators.
- Purchasers and users of personal protective equipment should not co-mingle products that are past their manufacturer’s recommended shelf life (i.e., expired) with items that are within their shelf life.
- Employers should visually inspect, or ensure that workers visually inspect, the N95 respirators to determine if the structural and functional integrity of the respirator has been compromised. Over time, components such as the straps, nose bridge, and nose foam material may degrade, which can affect the quality of the fit and seal.
- Where an employer has expired N95 respirators available from their own stored cache (i.e., not from the U.S. Strategic National Stockpile), the employer should seek assistance from the respirator manufacturer or independent lab regarding testing of those stored respirators prior to use.

**Expired N95 Respirators generally must not be used when HCP:**

- Perform surgical procedures on patients infected with, or potentially infected with, SARS-CoV-2, or perform or are present for procedures expected to generate aerosols or procedures where respiratory secretions are likely to be poorly controlled (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction).
- In accordance with CDC guidance for optimizing the supply of respirators, employers should prioritize the use of N95 respirators by activity type. When HCP perform or are present for aerosol-generating procedures or procedures where respiratory secretions are likely to be poorly controlled, use respirators (including N95 respirators; other FFRs; non-disposable, elastomeric respirators; and PAPRs) that are still within their manufacturer’s recommended shelf life, if available, before using respirators that are beyond their manufacturer’s recommended shelf life.\(^3\)
References
3. Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID19) Pandemic