

OSHA Respiratory Protection Program Guidance during COVID-19 Pandemic

Background

On April 13, 2020, the U.S. Occupational Safety and Health Administration (OSHA) announced an Interim Enforcement Response Plan for Coronavirus Disease 2019 (COVID-19). It provides instructions and guidance to OSHA Area Offices and for handling COVID-19-related complaints, referrals, and severe illness reports.

OSHA states it will continue to ensure safe and healthy conditions by enforcing standards during this health crisis and give heightened attention to the risks posed by SARS-CoV-2. SARS-CoV-2 is the virus causing the current COVID-19 pandemic. While aimed at the compliance safety and health officers (CSHOs), this guidance informs health and safety (H&S) professionals of guidance and standards that OSHA believe are particularly impacted as a result of this pandemic. The many changes to work practices and personal protective equipment supplies and services may be causing changes to employers' programs necessitating review and updates where changes have been made. The [Interim Enforcement Response Plan for Coronavirus Disease 2019 \(COVID-19\)](#) can be found on the OSHA website.

OSHA understands that some employers may face difficulties complying with OSHA standards due to the ongoing health emergency. In instances where an employer is unable to comply, the employer should demonstrate a good faith attempt to meet the applicable requirements.

Workplace risk levels

OSHA believes it is very important that H&S professionals identify risk levels in workplace settings for purposes of prioritizing equipment and services like fit testing activities, during the Coronavirus Disease 2019 (COVID-19) pandemic. To do this, all jobs must be identified and evaluated for the potential for exposure to known suspected sources of SARS-CoV-2. OSHA identifies the following categories of workplace risk levels.

High, Medium, and Low Exposure Risks

Healthcare and emergency response job tasks with *high* occupational exposure risk to SARS-CoV-2 include, but are not limited to:

- Entering rooms with suspected or confirmed COVID-19 patients
- Attending to suspected or confirmed COVID-19 patients through close contact (within 6 feet), or
- Transporting suspected or confirmed COVID-19 patients in enclosed vehicles

Job tasks with a *very high risk* of exposure to workers for which engineering controls, administrative controls, and personal protective equipment (PPE) are necessary include, but are not limited to,

- Surgery on suspected or confirmed COVID-19 patients
- Performing aerosol-generating procedures on these patients, such as
 - Bronchoscopy

- Sputum induction
- Nebulizer therapy
- Endotracheal intubation and extubation
- Open suctioning of airways
- Cardiopulmonary resuscitation on suspected or confirmed COVID-19 patients, or
- Autopsies on suspected or confirmed COVID-19 patients

Medium exposure risk jobs are those jobs with frequent and/or close contact with, i.e., within 6 feet of, people who may be (but are not known to be) infected with SARS-CoV-2. Includes workers:

- That may have frequent contact with travelers returning from international locations with widespread COVID-19 transmission,
- In areas where there is ongoing community transmission, includes, but not limited to, those who have contact with the general public, e.g.,
 - In schools
 - High-population-density work environments, and
 - Some high-volume retail settings

Lower exposure risk jobs do not require contact with people known to be, or suspected of being, infected with SARS-CoV-2, or frequent close contact with, i.e., within 6 feet of, the general public. Workers in this category have minimal occupational contact with the public and other coworkers.

Program and document review

OSHA will review programs and documents before conducting walkaround inspections. This includes, among others:

- Establishment of a written pandemic plan as recommended by the U.S. Centers for Disease control and Prevention (CDC)
- Procedures for hazard assessment and protocols for PPE use with suspected or confirmed COVID-19 patients
- Respiratory protection program (RPP) and any modified respirator policies related to COVID-19 and compliance with 29 CFR § 1910.134
- Employee training records, including any records of training related to COVID-19 exposure prevention or in preparation for a pandemic, if available
- Documentation of provisions to obtain and provide appropriate and adequate supplies of PPE
- Document of the consideration or implementation of a hierarchy of controls for worker protection, i.e., engineering controls, administrative controls, work practices, or PPE (including an RPP)

Applicable OSHA standards

- 29 CFR § 1904, Recording and Reporting Occupational Injuries and Illness
- 29 CFR § 1910.132, General Requirements - Personal Protective Equipment
- 29 CFR § 1910.133, Eye and Face protection
- 29 CFR § 1910.134, Respiratory Protection
- 29 CFR § 1910.141, Sanitation
- 29 CFR § 1910.145, Specification for Accident Prevention Signs and Tags
- 29 CFR § 1910.1020, Access to Employee Exposure and Medical Records
- Section 5(a)(1), General Duty Clause of the OSH Act

OSHA indicates that the above standards and requirements should be evaluated for high to very high occupational exposure risk. The list is not exhaustive.

General Duty Clause

If deficiencies not addressed by OSHA standards or regulations are discovered for controlling high to very high exposure risk for SARS-CoV-2, and guidance is available (e.g., CDC), OSHA can make use of the general duty clause. The CDCs guidance figures prominently into this determination.

Use of CDC recommendations

The most current CDC guidance should be consulted in assessing potential workplace hazards and to evaluate the adequacy of protective measures for workers.

Respiratory Protection Standard

For general guidance on determining compliance with the OSHA respiratory protection standard (29 CFR 1910.134), CSHOs typically refer to a compliance directive, CPL 02-00-158, [Inspection Procedures for the Respiratory Protection Standard](#), June 26, 2014.

Very high and high exposure tasks

OSHA will determine if healthcare or emergency response workers, who are expected to perform very high- and high-risk exposure tasks, are using respirators (i.e., N95 or better).

OSHA warns, “Appropriate respiratory protection is required for all healthcare personnel providing direct care for patients with suspected or confirmed cases of COVID-19.” For additional guidance, OSHA suggests the [COVID-19 Hospital Preparedness Assessment Tool](#).

Equipment shortages

Due to a shortage of:

- N95 filtering facepiece respirators (FFRs) and other disposable respirators
- Surgical masks
- Fit-testing supplies and equipment, and
- Health services

OSHA has provided specific enforcement discretion on some requirements of the Respiratory Protection standard.

Enforcement Discretion

The five OSHA documents listed below address current enforcement discretion and guidance for enforcing the Respiratory Protection standard, 29 CFR 1910.134, during the present COVID-19 outbreak. The reader is advised to continue to check for additional or modified guidance:

- OSHA Memorandum, [Temporary Enforcement Guidance - Healthcare Respiratory Protection Annual Fit-Testing for N95 Filtering Facepieces During the COVID-19 Outbreak](#), issued on March 14, 2020.

- OSHA Memorandum - [Expanded Temporary Enforcement Guidance on Respiratory Protection Fit-Testing for N95 Filtering Facepieces in All Industries During the Coronavirus Disease 2019 \(COVID-19\) Pandemic](#), April 8, 2020.
- OSHA Memorandum - [Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 \(COVID-19\) Pandemic](#), April 3, 2020.
- OSHA Memorandum - [Enforcement Guidance for Use of Respiratory Protection Equipment Certified under Standards of Other Countries or Jurisdictions During the Coronavirus Disease 2019 \(COVID-19\) Pandemic](#), April 3, 2020.
- OSHA Memorandum - [Discretion in Enforcement when Considering an Employer's Good Faith Efforts During the Coronavirus Disease 2019 \(COVID-19\) Pandemic](#), April 16, 2020,.
- OSHA Memorandum - [Enforcement Guidance on Decontamination of Filtering Facepiece Respirators in Healthcare During the Coronavirus Disease 2019 \(COVID-19\) Pandemic](#), April 24, 2020.

Good faith efforts

As part of assessing whether an employer engaged in good faith compliance efforts, CSHOs should evaluate whether the employer thoroughly explored all options to comply with the applicable standard(s) and whether the employer is making a good-faith effort to provide and ensure workers use the most appropriate respiratory protection available for exposures to SARS-CoV-2. (See respirator selection) Below is a summary of key guidance from the above memoranda.

These good faith efforts may include employers:

- Implementing ways to protect employees, and reduce the need for respiratory protection
- Making a good faith effort to obtain other appropriate, alternative FFRs, reusable elastomeric respirators, or PAPRs, including NIOSH-certified equipment or equipment that was previously NIOSH-certified but that has surpassed its manufacturer's recommended shelf life (in accordance with OSHA's April 3 memo)
- Monitoring their supply of N95s and prioritized their use according to CDC guidance (www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html; www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html), and
- Providing surgical masks and eye protection (e.g., face shields, goggles) as an interim measure to protect against splashes and large droplets (note: surgical masks are not respirators and do not provide adequate protection during aerosol-generating procedures)

Employers should consult the memoranda themselves for complete details of OSHA's enforcement policies.

Respiratory protection program

OSHA expects "all employers whose employees are required to use or are permitted voluntary use of respiratory protection must continue to manage their RPP in accordance with the OSHA respirator standard and should pay close attention to shortages of N95s during the COVID-19 pandemic. Paragraph (d)(1)(iii) in section 1910.134 requires such employers to identify and evaluate respiratory hazards in the workplace, and paragraph (c)(1) requires employers to develop and implement written RPPs with worksite-specific procedures and to update their written programs as necessary to reflect changes in workplace conditions that affect respirator use[3M emphasis]."

Respirator selection

According to OSHA,

- Prioritizing efforts to acquire and use equipment should be done in the following order:
 - a) National Institute for Occupational Safety and Health (NIOSH)-certified equipment; then
 - b) Equipment certified in accordance with standards of other countries or jurisdictions except the People's Republic of China, unless equipment certified in accordance with standards of the People's Republic of China is manufactured by a NIOSH certificate holder, in accordance with [OSHA's April 3, 2020 memo](#); then
 - c) Equipment certified in accordance with standards of the People's Republic of China, the manufacturer of which is not a NIOSH certificate holder, in accordance with OSHA's April 3, 2020 memo; then
 - d) Facemasks (e.g., medical masks, procedure masks).
- Prioritizing efforts to acquire and use equipment that has not exceeded its manufacturer's recommended shelf life before allowing workers to use equipment that is beyond its manufacturer's recommended shelf life. Equipment used beyond its manufacturer's recommended shelf life must be used in accordance with [OSHA's April 3, 2020 memo](#).
- Prioritizing efforts to use equipment that has not exceeded its intended service life (e.g., disposable FFRs used for the first time) before implementing protocols for extended use or reuse of equipment. Extended use or reuse of equipment should follow the CDC's [Strategies for Optimizing the Supply of N95 Respirators](#) and [OSHA's April 3, 2020 memo](#).
- Using homemade masks or improvised mouth and nose covers only, as a last resort (i.e., when no respirators or facemasks are available). Improvised masks are not personal protective equipment and, ideally, should be used with a face shield to cover the front and sides of the face. When this measure is the only resort, refer to the CDC guidance at www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html.

Healthcare employers

According to OSHA it is reasonable for healthcare employers to reserve some NIOSH- or foreign-certified N95 FFRs or better respirators for use by healthcare workers who are expected to 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. In such cases, and particularly when workers performing other tasks are provided with alternative equipment, employers should be able to provide a reasonable rationale for their decision to stockpile these respirators. See *also* www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/contingency-capacity-strategies.html.

The respirator selection worksite specific procedures will need to be updated to the respirator selection and prioritization policy of the employer. Employees will need to be informed of the changes.

Medical evaluations

Medical evaluations to determine the employee's ability to use a respirator, are required before the employee is fit tested or required to use the respirator in the workplace. Additional medical evaluations (reevaluation) are required when, among other conditions, an employee reports signs and symptoms that are related to their ability to use a respirator or a change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee, or according to the frequency identified on the medical determination on each employee's ability to use a respirator. Annual medical evaluations are not typically required.

Fit testing

The [OSHA memo of March 14, 2020](#) outlines enforcement discretion concerning the annual fit testing requirement, 29 CFR § 1910.134(f)(2), if employers:

- Make a good-faith effort to comply with 29 CFR § 1910.134
- Perform initial fit tests for each worker with the same model, style, and size respirator that the worker will be required to wear for protection against COVID-19 (initial fit testing is essential to determine if the respirator properly fits the worker and is capable of providing the expected level of protection)

- Inform workers that the employer is temporarily suspending the annual fit testing of N95 FFRs to preserve and prioritize the supply of respirators for use in situations where they are required to be worn
- Conduct a fit test if they observe visual changes in the employee's physical condition that could affect respirator fit (e.g., facial scarring, dental changes, cosmetic surgery, or obvious changes in body weight) and explain to workers that, if their face shape has changed since their last fit test, they may no longer be getting a good facial seal with the respirator and, thus, are not being adequately protected, and
- Remind workers that they should inform their supervisor or their respirator program administrator if the integrity and/or fit of their N95 FFR is compromised

In the April 8, 2020, memo - [Expanded Temporary Enforcement Guidance on Respiratory Protection Fit-Testing for N95 Filtering Facepieces in All Industries During the Coronavirus](#) OSHA updated its guidance to include all industries. OSHA encouraged employers to take necessary steps to prioritize use of fit-testing equipment due to shortages to protect employees who must use respirators for high-hazard procedures.

OSHA also said, "Most respirator manufacturers produce multiple models that use the same basic head form for size/fit. Manufacturers may have a crosswalk (i.e., a list of their respirators with equivalent fit). Therefore, if a user's respirator model (e.g., model x) is out of stock, employers should consult the manufacturer to see if it recommends a different model (e.g., model y or z) that fits similarly to the model (x) used previously by employees."

OSHA will exercise additional enforcement discretion when an employer switches to an equivalent fitting make/model/size/style N95 or other FFR without first performing an initial quantitative or qualitative fit test.

If changes to fit test procedures covering when, how and who is being fit tested are made, the procedures need to be updated in the RPP. For example, some employers may change from quantitative fit testing to qualitative fit testing procedures to conserve FFR supply.

Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding and otherwise maintaining respirators

CDC guidelines for contingency and crisis capacity strategies allow for extended use and reuse, use of expired and decontaminated N95 FFRs. If these practices become necessary, the same worker is permitted to extend use of or reuse the respirator, as long as the respirator maintains its structural and functional integrity and the filter material is not physically damaged, soiled, or contaminated (e.g., with blood, oil, paint). These changes can affect worksite specific procedures for respirator maintenance.

- *Extended use or reuse of N95s:* OSHA advises employers they must address in their written RPPs the circumstances under which a disposable respirator will be considered contaminated and not available for extended use or reuse. Extended use is preferred over reuse due to contact transmission risk associated with donning/doffing during reuse. When respirators are being re-used, employers should pay attention to workers' proper storage of the FFRs in between periods of reuse.
- *Use of expired N95s:*
 - Employers may use only previously NIOSH-certified expired N95 FFRs found at www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html. Workers should be notified that they are using expired N95s. [3M emphasis].
 - Employers should visually inspect, or ensure that workers visually inspect, the N95 FFRs 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 N95s 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.
- *Use of decontaminated N95s:*

- Make a good-faith effort to provide and ensure workers use the most appropriate respiratory protection
- Decontaminate N95s in ways consistent with OSHA's COVID-19 enforcement memoranda and the U.S. Centers for Disease Control and Prevention (CDC) [Strategies for Optimizing the Supply of N95 Respirators](#),
- Ensure users perform a user seal check each time they don a respirator. Employers should not permit use of a respirator on which the user cannot perform a successful user seal check. See 29 CFR § 1910.134, Appendix B-1, [User Seal Check Procedures](#).^[11]
- Visually inspect, or ensure that workers visually inspect, the FFRs to determine if the structural and functional integrity of the respirator has been compromised. Over time or as a result of the decontamination process, components such as the straps, nose bridge, and nose foam material may degrade, which can affect the quality of the fit and seal.
- If no manufacturer or third-party guidance or procedures are available to support the specific decontamination method(s) employed, avoid the use of decontaminated FFRs when healthcare personnel 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. If decontamination methods degrade FFR performance, including filtration and fit, or otherwise affect structural integrity, the decontaminated FFR may not provide the level of protection needed or expected during aerosol-generating procedures.

Avoid co-mingling products from different categories of equipment. That is, NIOSH-certified equipment, equipment that was previously NIOSH-certified but that has surpassed its manufacturer's recommended shelf life (expired), equipment certified under standards of other countries, and equipment that was previously certified under standards of other countries but that has surpassed its manufacturer's recommended shelf life, should be stored separately.

Training of employees in the respiratory hazards

Training must include why (e.g., SARS-CoV-2) and when use of the respirator is necessary.

Training of employees in proper respirator use

This RPP element include putting on (donning) and removing (doffing)the respirators and any limitations on the respirator use. As respirator types and models are changed, donning and doffing instructions including the user seal check will vary. Limitations on use include instructions about when the respirator should be discarded.

Train employees on the procedures for the sequence of donning/doffing to prevent self-contamination. See www.cdc.gov/niosh/npptl/pdfs/PPE-Sequence-508.pdf. Especially important when reuse and extended use practices are allowed.

Train users to perform a user seal check each time they don a respirator, regardless of whether it is a NIOSH-certified device or device certified under standards of other countries and should not use a respirator on which they cannot perform a successful user seal check.

Employers should train workers to understand that if the structural and functional integrity of any part of the respirator is compromised, it should be discarded, and that if a successful user seal check cannot be performed, another respirator should be tried to achieve a successful user seal check. See below.

If using decontaminated respirators:

- Train employees to follow appropriate precautionary measures prior to using a decontaminated filtering facepiece respirator (FFR). See www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html.

- Train employees to understand that if the structural and functional integrity of any part of the respirator is compromised, it should not be used by that individual as respiratory protection. The inability to achieve a successful user seal check could be an indicator that the integrity of the respirator is compromised.

The reader is advised to check the OSHA website for new or revised enforcement memos on COVID-19, Novel Coronavirus at <https://www.osha.gov/enforcementmemos> and the CDC website for updates on respiratory protection practices during the pandemic, <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html> and <https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html>.

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