

Coronavirus (COVID-19) Pandemic: Personal Protective Equipment Preservation Best Practices

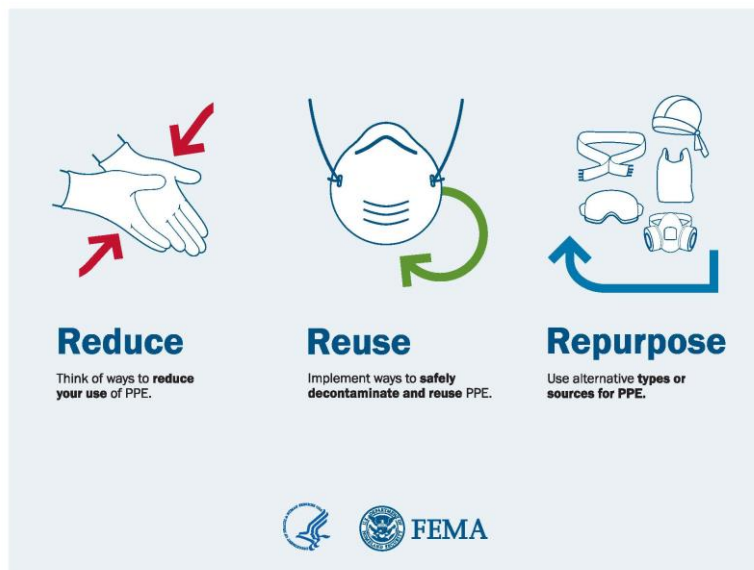
This guidance summarizes best practices for national implementation to sustain personal protective equipment (PPE) while ensuring the protection of workers during the coronavirus (COVID-19) pandemic response.

Objective

The objective of the COVID-19 National Strategy for Addressing Personal Protective Equipment (PPE) Shortage is to ensure protection against COVID-19 for healthcare workers, first responders, and patients by implementing three pillars of practice: reduce – reuse – repurpose. Due to the COVID-19 pandemic response and associated PPE shortages, implementation of contingency and crisis capacity plans may be necessary to ensure the continued availability of protective gear.

This fact sheet amplifies the [Centers for Disease Control and Prevention \(CDC\) strategies on conventional, contingency and crisis capacity strategies for optimizing PPE](#). The user should select appropriate actions based on the organizational/facility stage in the response and specific to their circumstances. All U.S. healthcare facilities should begin using PPE contingency strategies NOW.

WHAT DO I DO



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HOW DO I DO IT?

- Non-healthcare industries should conserve medical PPE for medical care.
- Maintain social distancing.
- If feasible, conduct patient or civilian interactions outdoors or in large open spaces.

1. REDUCE usage rate of PPE

Contingency – Engineering, Barriers, and Technology

- Use barrier controls when possible to limit the need for PPE (e.g. masking patients, plexiglass/acrylic barriers, car windows, improved ventilation systems).
- Limit visitor access and offer technology-based alternatives (e.g., video chat).
- Use tele-consultation, internet-based interviews, or remote camera-based observation when available.
- When clinically appropriate, place IV towers and ventilators outside of patient rooms to allow monitoring and management without entering the room.
- Use automated or “no-contact” delivery of food and supplies.

Contingency – Work Practices and Administrative Changes

- Minimize number of people with, and frequency of, direct patient or civilian contact.
- Work with cohorts of patients/civilians who test positive for COVID-19, rather than single subjects.
- Consolidate activities to a single visit (e.g., meals, welfare checks, vitals checks, medication administration).
- Modify supporting staff workflow (e.g., environmental services, food and nutrition) to limit PPE use.

Contingency – Personal Protective Equipment

- Understand your PPE requirements and burn rates - <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/burn-calculator.html>
- Extend use-times of undamaged, non-visibly soiled PPE beyond single patient contact and other standard practice durations.
- Note: OSHA has relaxed enforcement of annual fit-testing requirements for N-95 filtering facepiece respirators (FFRs) - <https://www.osha.gov/news/newsreleases/national/03142020>.

2. REUSE PPE through optimization, decontamination, and reuse procedures

- Contingency – Implement strategies to optimize the supply of PPE and equipment: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>
- Crisis - Implement expanded facility-based PPE reuse policies and procedures.
- Crisis - Track “check in” and “check out” of PPE designated for reuse. Each worker is provided specific PPE at the beginning of the shift. At the end of the shift, all PPE is labeled, collected, and stored for reuse.
- Crisis – Implement guidance for decontamination and reuse of FFRs:
 - <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html>
 - For large-scale decontamination of N-95 FFR's consider using the following methods:
 - Industrial or facility-based vaporized hydrogen peroxide sterilization systems
 - <https://www.fda.gov/media/136529/download>
 - <https://www.fda.gov/media/136843/download>
 - <https://www.fda.gov/media/136884/download>
 - Industrial or facility-based moist heat disinfection systems (NOT autoclaves)
 - Facility-based ultraviolet germicidal irradiation (UVGI) systems
 - For low-volume or personal decontamination of N-95 FFR's consider using commercially available microwavable moist heat disinfection devices following manufacturer's instructions (e.g. do not put metal parts in microwaves).

3. REPURPOSE alternate types and sources of PPE

- Contingency - Use other NIOSH-approved respirators instead of N-95 FFR when respiratory protection is required. See <https://www.fda.gov/media/135763/download>. Examples include:
 - powered, air-purifying respirators (PAPRs);
 - reusable air-purifying respirators (elastomeric half and full facepiece respirators);
 - other disposable air-purifying particulate FFRs.
- Contingency - Seek alternative supplies of PPE.
 - Encourage community members to donate private stocks of PPE to your facility.
 - Seek PPE and other equipment from dentist offices, veterinarians, individuals, and other sources, including businesses that are not active.
 - Use commercial sources of industrial disposable coveralls, face shields, goggles, shoe covers, etc.
- Crisis - Use N-95 FFRs beyond their expiration dates if certain conditions are met.
 - <https://www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html>.
- Crisis - Use FDA authorized imported, non-NIOSH-approved disposable FFRs.
 - <https://www.fda.gov/media/136403/download>
 - <https://www.fda.gov/media/136664/download>

COMMUNICATE, COMMUNICATE, COMMUNICATE

Organizations need to assemble a team to review existing Health and Safety Plan (HASP) and Respiratory Protection Plan (RPP) policies and procedures for opportunities to reduce, reuse, or repurpose and develop contingency/crisis plans for COVID-19. Such a team might include (where available) environmental health officers, safety officers, industrial hygienists, logistics officers, infection prevention practitioners, facility managers, operations chiefs, medical officers, and work-force representatives.

To ensure uniform application of modified practices, processes, and procedures, all workers must be trained, with recommended elements including:

- Reasons for changes from standard practice and for implementing contingency and crisis practices during COVID-19 related PPE shortages
- New PPE guidance (FDA, CDC, DOJ) related to COVID-19
- Proper methods to conduct new or changed work practices (e.g., staffing, social distancing)
- Methods to install or utilize any barrier controls (e.g. patient masking, Plexiglas shields)
- Proper donning and doffing of PPE to minimize self-infection
- Proper hand hygiene