Aging Services Personal Protective Equipment Guidelines in the COVID-19 Pandemic

This document can be used to develop a comprehensive personal protective equipment (PPE) program to help contain the SARS-CoV-2 virus and COVID-19 disease. This guidance will discuss PPE requirements in long-term care utilizing a red/yellow/green zone cohorting strategy based on infection exposure risks. To demonstrate a cohorting plan, we have used an example where a red zone represents a COVID-19-positive and/or symptomatic unit; a yellow zone is an isolation unit; and a green zone is a unit for people who have not yet been tested but who are thought to be unexposed, who have tested negative, or who have been ill with COVID-19 and have recovered completely. Additional considerations include the following:

- Residents, staff, and visitors should, ideally, be wearing surgical face masks as part of source control efforts. If surgical face mask supplies are limited, residents, staff who are not involved with direct resident care, and visitors may wear their own cloth face masks while visiting the facility.

- Cloth face masks should not be worn for the care of patients with known or suspected COVID-19 or in other situations where a respirator or surgical face mask is warranted.

### PPE Requirements Utilizing Red/Yellow/Green Zone Cohorting

- Standard/universal precautions should always be followed regardless of isolation zone and may require full PPE, typically excluding a respirator.

- Full PPE must be used to care for residents in COVID-positive (red) and potentially exposed (yellow) zones.

- Staff should be designated by zone as much as possible to minimize risk to exposed (yellow zone) and nonexposed (green zone) residents.

<table>
<thead>
<tr>
<th>Zone Description</th>
<th>Red Zone</th>
<th>Yellow Zone</th>
<th>Green Zone</th>
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</thead>
<tbody>
<tr>
<td>Residents with a positive SARS-CoV-2 PCR test and/or symptomatic still within the parameters for transmission-based precautions</td>
<td>Residents with a negative SARS-CoV-2 PCR test who remain asymptomatic but are within 14 days of possible exposure to COVID-19</td>
<td>Any resident in the facility who was not tested, who is thought to be unexposed, recovered, or tested negative to COVID-19</td>
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<tr>
<td>Full PPE should be donned by healthcare providers and all foundational infection prevention and control measures followed. PPE use includes respirators (as appropriate), surgical mask, face shield, gloves, and gown.</td>
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</tbody>
</table>

COVID-19, coronavirus disease; PCR, polymerase chain reaction; PPE, personal protective equipment; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

*Based on Pennsylvania Department of Health 2020 – PAHAN – 508 – 5-12-ADV; ADVISORY: Test-based Strategies for Preventing Transmission of the Virus that Causes COVID-19 in Skilled Nursing Facilities (32 May 2020).*
All PPE should be changed out and hand hygiene performed before a worker crosses from a red to a yellow zone or from a yellow to a green zone.

- Exception: respirators or masks that have been worn with a face shield can be worn continuously, but this should be limited to key staff (e.g., nursing).

### Administrative Considerations

- A written respiratory protection program should be developed.
  - Consider [Occupational Safety and Health Administration (OSHA)](https://www.osha.gov) guidance on developing a respiratory protection program.
  - Include worksite-specific procedures and elements for required respirator use.
  - Identify a suitably trained respiratory protection program administrator.

- Contingency and crisis capacity PPE measures should be included in infection control disaster preparedness and emergency plans.

- Policies and procedures must be established for standard precautions and transmission-based precautions. Transmission-based precautions are used in addition to standard precautions when standard precautions alone may be insufficient to prevent transmission of highly transmissible disease (i.e., COVID-19). At minimum, the following parameters should be included in policy, following CDC definitions for [standard precautions](https://www.cdc.gov/infectionsc Management.html#standard) and for [transmission-based precautions](https://www.cdc.gov/infectionsc Management.html#transmission-based):
  - For a resident on contact precautions: staff should don (put on) gloves and isolation gown before contact with the resident or his or her environment.
  - For a resident on droplet precautions: staff should don a face mask within six feet of the resident.
  - For a resident on airborne precautions: staff should don an N95 or higher-level respirator prior to entering the resident’s room.
  - For a resident with an undiagnosed respiratory infection: staff should follow standard, contact, and droplet precautions (i.e., surgical face mask, gloves, isolation gown) with eye protection unless the suspected diagnosis requires airborne precautions.
  - For a resident requiring airborne precautions or for residents with known or suspected COVID-19 who could generate infectious aerosols: perform aerosol-generating procedures (such as suctioning of airways or procedures that cause coughing) cautiously. During aerosol-generating procedures, staff in the room should wear N95 or higher-level respirators, eye protection, gloves, and isolation gowns. The number of staff present during the procedure should be limited to those essential for resident care and procedure support.
  - Employees should be educated and have ready access to policies and procedures for standard and transmission-based precautions.
  - Signage at all employee entrances should specify the appropriate use of specific PPE for staff.

### Inventory and Supply Management

- Choice of PPE vendors and alternative suppliers should be defined in the organization’s policy.
  - A list of alternative suppliers is available through the [ECRI COVID-19 Resource Center](https://www.ecri.org/covid-19).

- Acquisition of PPE (e.g., gowns, gloves, eye protection, and respirators, or surgical face masks if respirators are not available) must be established.

- Availability of selected PPE equipment must be determined.
  - Supply shortages should be communicated to local and state health departments.
  - All communications and efforts to obtain PPE should be documented.

- Inventory management of selected PPE equipment must be established.
  - The CDC’s PPE burn rate calculator is a spreadsheet-based model to help plan and optimize the use of PPE for response to COVID-19.
  - The National Institute for Occupational Safety and Health’s [PPE tracker app](https://www.cdc.gov/infectionsc Management.html#tools) can also be used to calculate average PPE consumption rate.
  - Consider PPE supplies needed for COVID-19 diagnostic testing (e.g., 200 tests, need 200 pairs of gloves).
  - Consider PPE supplies needed for visitation.

- If there are COVID-19 cases in the facility or if there is sustained community transmission, all staff must adhere to universal use of surgical face masks while in the facility.

- During PPE shortages, respirators should be prioritized for aerosol-generating procedures.
  - In times of shortages, alternatives to N95s should be considered, including powered air-purifying respirators (PAPRs), other classes of disposable filtering facepiece respirators (FFRs), elastomeric half-masks, and full-facepiece air-purifying respirators where feasible.
  - CDC offers [strategies for optimizing the supply of N95 respirators during the COVID-19 response](https://www.cdc.gov/infectionsc Management.html#optimal-supply).
Employee Education

All personnel training should be documented.

— All personnel should be trained as needed, upon hire, and annually on the following:
  
  • Whom to contact for PPE replacement supplies.
  • How to safely don and take off (doff) PPE according to CDC guidelines.

— Personnel competencies in properly donning and doffing PPE should be documented.

— Employees should be trained on indications for use of respirators.
  
  • Determine which staff need to be in a respiratory protection program and which do not.
  • Implement fit testing for use of N95 respirators as recommended by OSHA-accepted fit test protocols.

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