

Quality Improvement: PPE Approaches

Improved Quality Outcomes

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Questions to Ask...

- Do you have measures for obtaining an adequate supply of at least 2 weeks of PPE?
- Do you have a contingency plan for shortages?
- Have you trained your staff in proper selection, donning and doffing?
- Is PPE available outside the resident rooms?
- Are trash receptacles in strategic locations near the exit of the resident room?
- If COVID-19 cases are in the building, are staff wearing PPE for care of all residents?
- Do residents wear facemasks when they leave the room?
- Are all employees wearing facemasks in the facility?



#1 Policy and Procedure

- Policies and Procedures for PPE




#2 Determine Supply Needs



Determine Needs

• CDC Burn Rate Calculator

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/burn-calculator.html>




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COVID-19

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Coronavirus Disease 2019 (COVID-19)

WEAR A MASK. PROTECT OTHERS.



Your Health

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Healthcare Workers & Labs

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Optimize PPE Supply

Summary Optimization Strategies

PPE Burn Rate Calculator

Eye Protection

Gowns

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HEALTHCARE WORKERS

Personal Protective Equipment (PPE) Burn Rate Calculator

Updated Apr. 7, 2020

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Mobile app version now available

The Personal Protective Equipment (PPE) Burn Rate Calculator is now available as an app. Facilities can use the [NIOSH PPE Tracker app](#) to calculate their average PPE consumption rate or "burn rate." The app estimates how many days a PPE supply will last given current inventory levels and PPE burn rate. The app is available for both [iOS](#) and [Android](#) devices. Visit the [NIOSH PPE Tracker app page](#) to download this free tool.


The [Personal Protective Equipment \(PPE\) Burn Rate Calculator](#) [3 sheets] is a spreadsheet-based model that will help healthcare facilities plan and optimize the use of PPE for response to coronavirus disease 2019 (COVID-19). Non-healthcare facilities such as correctional facilities may also find this tool useful.

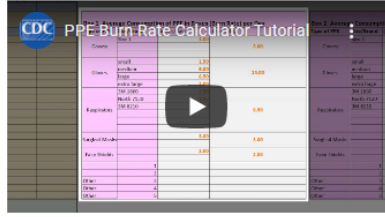
To use the calculator, enter the number of full boxes of each type of PPE in stock (gowns, gloves, surgical masks, respirators, and face shields, for example) and the total number of patients at your facility. The tool will calculate the average consumption rate, also referred to as a "burn rate," for each type of PPE entered in the spreadsheet. This information can then be used to estimate how long the remaining supply of PPE will last, based on the average consumption rate. Using the calculator can help facilities make order projections for future needs.

System Requirements

- Windows* operating system (MS Windows 2000 or newer)
- Microsoft Excel (MS Office 2000 or newer)
- 486 Pentium processor and at least 128MB RAM

Personal Protective Equipment (PPE) Burn Rate Calculator

 Use this Excel spreadsheet to calculate your PPE burn rate



Questions to Ask?

- Do you have a stable source of at least 2 weeks of:
 - Facemasks
 - Respirators
 - Gowns
 - Gloves
 - Eye Protection



#3 PPE Education

- Education and Demonstration



Before caring for patients with confirmed or suspected COVID-19, healthcare personnel (HCP) must:

- Receive comprehensive training on when and what PPE is necessary, how to don (put on) and doff (take off) PPE, limitations of PPE, and proper use, maintenance, and disposal of PPE.
- Demonstrate competency to perform the appropriate infection control practices and procedures.

Remember:

- PPE must be doffed correctly before exiting the patient area (e.g., isolation room, unit if applicable).
- PPE must remain in place until the user correctly has the location of work to personally contaminated areas. PPE should not be adjusted (e.g., touching face, adjusting equipment) to avoid contamination during patient care.
- PPE must be removed slowly and deliberately to avoid contact with contamination. A step-by-step process should be developed and used during training and patient care.



www.cdc.gov/coronavirus

How to Put On and Take Off PPE – Fact Sheet 8.5 x 11 [PDF – 1 page]

- [Spanish](#) [2 pages]
- [Ukrainian](#) [2 pages]
- [Tagalog](#) [2 pages]

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Donning (putting on the gear)

Remember to always perform hand hygiene. Donning gear must be done in the following order:

1. Identify and get into the proper PPE area. Do not enter the area until you are instructed to do so.
2. Perform hand hygiene using hand sanitizer.
3. Do not touch the gown. Touch only at the waist. Do not touch the head or neck.
4. Do not touch the gown. Touch only at the waist. Do not touch the head or neck.
5. Do not touch the gown. Touch only at the waist. Do not touch the head or neck.
6. Do not touch the gown. Touch only at the waist. Do not touch the head or neck.
7. Do not touch the gown. Touch only at the waist. Do not touch the head or neck.



www.cdc.gov/coronavirus

How to Put On and Take Off PPE – Poster 11x17 [PDF – 1 page]

Preferred PPE – Use NIOS or higher respirator



PPE Illustrations [PDF – 1 page]

Acceptable Alternative PPE – Use Face Mask



cdc.gov/COVID19

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>

Donning and Doffing

- Have a system for employees to receive adequate training and return demonstration
- Continue to verify competency with process audits
- Designate lead employees to support, teach, mentor and hold staff accountable on all shifts
- Help, ask, do



#4 Optimizing PPE

- Policies and Procedures
- Employee Education
- Follow Guidance
- Audit and Monitor



5 Surveillance

Infection Prevention and Control Manual Interim Personal Protective Equipment (PPE) Audit- COVID-19 Pandemic

Personal Protective Equipment (PPE) - COVID-19 Audit



PROCEDURE	YES	NO	COMMENTS
All facility staff are wearing face covering (no cloth masks)			
All facility staff are wearing PPE consistent with current guidance and COVID-19 status in facility			
Preparation			
1. Determine and assemble appropriate PPE			
2. Perform Hand Hygiene			
Donning of Personal Protective Equipment			
1. Gown is donned first and tied at waist and neck			
2. Don mask or N95 respirator			
3. Secure nosepiece with both hands			
4. Secure elastic bands or ties securely			
5. Mask or N95 fits snug to face and below chin			
6. Goggles or face shield is donned			
7. Hand Hygiene is performed			
8. Gloves extend to cover wrist of gown			
Removal of Personal Protective Equipment			
Gloves			
1. Grasps outside of glove with opposite gloved hand and peels off			
2. Holds removed glove in gloved hand			
3. Slides fingers of ungloved hand under remaining glove at wrist			
4. Peels glove off over first glove			
5. Discards gloves in waste container			
Gown			
1. Unfasten ties			
2. Pulls away from neck and shoulders, touching inside of gown only			
3. Turn gown inside out			
4. Folds or rolls into a bundle and discards <ul style="list-style-type: none"> a. Disposable gowns: Discards in waste receptacle b. Reusable/cloth gowns: Places in soiled laundry receptacle c. Places in soiled laundry receptacle 			
Exits Room after Glove/Gown Removal			
Performs Hand Hygiene			
Goggles/Face Shield			
1. Removes goggles/face shield using care to pull away from face not to touch front of shield or goggles			

This resource was developed utilizing information from CDC and CMS.
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Infection Prevention and Control Manual Interim Personal Protective Equipment (PPE) Audit- COVID-19 Pandemic

Mask or Respirator	YES	NO	COMMENTS
1. Grasps bottom, then top ties or elastics and removes			
2. Does not touch the front of the mask or respirator (contaminated)			
3. Disposes of properly			
5. The employee used the proper technique and order to don and removed PPE			
6. PPE was removed at doorway or anteroom			
7. Perform Hand Hygiene			
Other			
1. Residents who leave facility for medical appointments (i.e. dialysis, chemotherapy) wear masks outside of room			
2. Residents who are discharged/transported outside of facility wear a mask			
Comments			

Employee _____ Date _____

Evaluator _____ Date _____

References

- Centers for Disease Control and Prevention: Use Personal Protective Equipment (PPE) When Caring for Patients with Confirmed or Suspected COVID-19: https://www.cdc.gov/coronavirus/2019-ncov/downloads/A_FS_HCP_COVID19_PPE.pdf
- Centers for Medicare & Medicaid Services: COVID-19 Long Term Care Facility Guidance. April 2, 2020. <https://www.cms.gov/files/document/4220-covid-19-long-term-care-facility-guidance.pdf>
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- Centers for Medicare & Medicaid Services: Prioritization of Survey Activities. QSO-20-20-ALL. <https://www.cms.gov/files/document/qso-20-20-all.pdf>
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#6 Performance Improvement



#7 Supporting Team Members



Clear Masks



Clear masks or cloth masks with a clear plastic panel

Clear masks or cloth masks with a clear plastic panel are an alternative type of mask for residents who interact with:

- People who are deaf or hard of hearing
- People with disabilities, or dementia
- People who need to see the proper shape of the mouth for making appropriate vowel sounds

If you use this type of mask, make sure

- You can breathe easily
- Excess moisture does not collect on the inside of the mask

The FDA recently cleared a [transparent pdf iconexternal icon](#) medical mask.

These transparent medical masks should be reserved for use by healthcare workers and patients who require them.

Resources for Clear Masks

- Guidance from CDC on Cloth Face Coverings
 - [CDC Guidance on Cloth Face Coverings](#)
- First Clear Face Covering -Approval from FDA
 - [FDA-Approves First Clear Mask](#)
- Where to purchase FDA-cleared for medical use clear face masks:
 - <https://buy.theclearmask.com/products/clearmask-box-medical>
- CDC: Optimizing PPE Supplies:
 - <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>

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