NETEC COVID-19 Webinar Series:
PPE Town Hall
Welcome

Amanda Grindle, MSN, RN, CNL, CPN, CCRN
Welcome: Amanda Grindle, MSN, RN, CNL, CPN, CCRN

General PPE Questions: Jill Morgan, RN, BSN
Trish Tennill, RN, BSN
Kate Boulter, RN, BAN, MPH

Respiratory Protection PPE Questions: Jill Morgan, RN, BSN
Trish Tennill, RN, BSN
Kate Boulter, RN, BAN, MPH

NETEC Resources: Amanda Grindle, MSN, RN, CNL, CPN, CCRN

Questions and Answers with NETEC
Welcome

National Emerging Special Pathogens Training and Education Center

Mission Statement

To increase the capability of the United States public health and health care systems to safely and effectively manage individuals with suspected and confirmed special pathogens

For more information

Please visit us at www.netec.org
or email us at info@netec.org
NETEC Overview

Assessment
- Empower hospitals to gauge their readiness using **Self-Assessment**
- Measure facility and healthcare worker readiness using **Metrics**
- Provide direct feedback to hospitals via **On-Site Assessment**

Education
- Provide self-paced education through **Online Trainings**
- Deliver didactic and hands-on simulation training via **In-Person Courses**
- COVID-19 focused **Webinars**

Technical Assistance
- **Onsite & Remote Guidance**
  - Compile **Online Repository** of tools and resources
  - Develop customizable **Exercise Templates** based on the HSEEP model
  - Provide **Emergency On-Call Mobilization**

Research Network
- **Online Repository**
  - Built for rapid implementation of clinical research protocols
- **Develop Policies, Procedures and Data Capture Tools** to facilitate research
- Create infrastructure for a **Specimen Biorepository**

Cross-Cutting, Supportive Activities
- **Research Network**
  - COVID-19 focused Webinars
General PPE Questions

Jill Morgan, RN, BSN
Trish Tennill, RN, BSN
Kate Boulter, RN, BAN, MPH
What does an appropriate PPE ensemble look like?

**Preferred PPE – Use**
- **N95 or Higher Respirator**
  - Face shield or goggles
  - N95 or higher respirator
  - Isolation gown
- One pair of clean, non-sterile gloves

**Acceptable Alternative PPE – Use**
- **Facemask**
  - Face shield or goggles
  - Facemask
- N95 or higher respirators are preferred but facemasks are an acceptable alternative.

One pair of clean, non-sterile gloves

Isolation gown

How do you don and doff PPE properly?

Donning Order

1. Hand Hygiene
2. Gown
3. Respirator
4. Eye Protection
5. Gloves

Hand Hygiene
How do you don and doff PPE properly?

**Doffing Order 1**
1. Hand Hygiene
2. Gown with Gloves
3. Hand Hygiene
4. Eye Protection
5. Hand Hygiene
6. N95
7. Hand Hygiene

**Doffing Order 2**
1. Hand Hygiene
2. Gown
3. Gloves
4. Hand Hygiene
5. Eye Protection
6. Hand Hygiene
7. N95
8. Hand Hygiene

[https://repository.netecweb.org/files/original/dca73031fbbc6c342e084bc2929732ef.pdf](https://repository.netecweb.org/files/original/dca73031fbbc6c342e084bc2929732ef.pdf)
What are guidelines for PPE use in different settings?

Two points to consider for what PPE to wear in various situations:

<table>
<thead>
<tr>
<th>Status of Patient:</th>
<th>Task to be Performed:</th>
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<tbody>
<tr>
<td>• Person under investigation (PUI)?</td>
<td>• Aerosol generating procedure?</td>
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<tr>
<td>• Symptomatic?</td>
<td>• Dressing, bathing/showering, transferring, providing hygiene, changing linens,</td>
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<tr>
<td>• Cooperative (can/will follow commands)?</td>
<td>changing briefs or assisting with toileting, device care or use, wound care?</td>
</tr>
<tr>
<td>• Known or presumed positive?</td>
<td></td>
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COVID Positive Patients:
- For close contact and/or AGP’s prioritize the use of N95’s (or higher) + gowns
- For more distant or low contact, procedure masks + gown of some type
Let’s go back to the example of employees working in a laboratory where a separate chemical-barrier apron must be worn over their lab coats. If, in addition to the challenge of remembering to put on the aprons, the employees also had to walk into a different room to get them, the combined discomfort of the stiff aprons and inconvenience of wearing them would be a recipe for noncompliance.
QUESTION:

What are safe, alternative versions of PPE if what you would normally use is not available?

Limited availability of PPE –
Preferred: N95, face shield or other eye protection, single-use isolation gown
Acceptable: surgical or procedure mask, face shield or other eye protection, isolation gown
Crisis: Cover your nose and mouth (cloth better than nothing), protect with face shield if no mask of any kind is available, cloth mask and safety glasses or goggles, lab coat/patient gown/apron/surgical sleeves
No PPE: prioritize at-risk HCW’s to non-COVID patients

Strategies for Optimizing the Supply of Facemasks

Audience: These considerations are intended for use by federal, state, and local public health officials; leaders in occupational health services and infection prevention and control programs; and other leaders in healthcare settings who are responsible for developing and implementing policies and procedures for preventing pathogen transmission in healthcare settings.

Purpose: This document offers a series of strategies or options to optimize supplies of facemasks in healthcare settings when there is limited supply. It does not address other aspects of pandemic planning; for those, healthcare facilities can refer to COVID-19 preparedness plans.


Contact Precautions
Gown + Gloves (one pair)

Airborne v. Droplet Precautions
Mask or Respirator, Eye Protection

Not Required
Shoe covers, Hair covers, Impervious gown
QUESTION:
What resources are available regarding PPE conservation, reuse, and decontamination?


https://www.fema.gov/media-library-data/1587131519031-6501ee8a0ce72004832fa37141c53bc0/PPE_FACTSHEET.pdf
QUESTION:

Can you clean and reuse PPE other than N95s (for example, gowns, PAPR hoods, surgical masks, other respirators)?

Medical Glove Conservation Strategies: Letter to Health Care Providers


Strategies for Reuse and Extended Use of Personal Protective Equipment (PPE) During COVID-19 Outbreak

This guidance is intended for medical directors, health care administrators, and professionals working in infectious disease, infection prevention and control, occupational health and safety, materials management and procurement.

Respiratory Protection PPE Questions

Jill Morgan, RN, BSN
Trish Tennill, RN, BSN
Kate Boulter, RN, BAN, MPH
QUESTION:

Under what circumstances should cloth masks be worn?  
-&-

How should cloth masks be cleaned?

“As authors of the only published randomized controlled clinical trial of cloth masks, we have been getting daily emails about this from health workers concerned about using cloth masks. The study found that cloth mask wearers had higher rates of infection than even the standard practice control group of health workers, and the filtration provided by cloth masks was poor compared to surgical masks.”

HCP use of homemade masks:
In settings where facemasks are not available, HCP might use homemade masks (e.g., bandana, scarf) for care of patients with COVID-19 as a last resort. However, homemade masks are not considered PPE, since their capability to protect HCP is unknown. Caution should be exercised when considering this option. Homemade masks should ideally be used in combination with a face shield that covers the entire front (that extends to the chin or below) and sides of the face.

DIY Face masks by the CDC

A Few of the Published Studies on Cloth Masks
How do you ensure a good fit for an N95, initially and after multiple uses?

Fit Testing

NIOSH Documents

Filtering out Confusion: Frequently Asked Questions about Respiratory Protection. Fit Testing
DHHS (NIOSH) Publication No. 2018-129 (April 2018)
The Occupational Safety and Health Administration (OSHA) (29 CFR 1910.134) requires an annual respirator fit test to confirm the fit of any respirator that forms a tight seal on the wearer’s face before it is used in the workplace. This ensures that users are receiving the expected level of protection by minimizing any contaminant leakage into the facepiece.
If used in healthcare delivery, it is particularly important that HCP perform the expected seal check, prior to entering a patient care area. CDC does not recommend using N95s beyond the manufacturer-designated shelf life in surgical settings. On March 2, 2020, FDA issued an Emergency Use Authorization (EUA) authorizing the use of certain NIOSH-approved respirator models in healthcare settings. This EUA includes respirator units that are past their designated shelf life.
How do you safely store N95s between reuse?

Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings

Overview:
The recommendations in this guidance are temporary while there are national and international shortages of personal protective equipment. Face masks include disposable procedure masks and surgical masks. Respirators include powered air purifying respirators (PAPRs) and disposable N95 respirators. Protective eyewear includes face shields and goggles. These guidelines apply to all health care personnel (HCPs) who need to wear respiratory and eye protection during patient care or as a requirement of their work responsibilities.
Can we wear different types of N95s in a hospital setting (for example, industrial)?


Yesterday the Centers for Disease Control and Prevention updated, for the second time in a week, guidance for healthcare workers on using face masks, including N95 respirators and surgical masks, while treating possible COVID-19 patients in conventional, contingency, and crisis settings.

https://www.cidrap.umn.edu/news-perspective/2020/03/hospitals-scramble-keep-cdc-n95-mask-guidance

N95 respirators and surgical masks (face masks) are examples of personal protective equipment that are used to protect the wearer from airborne particles and from liquid contaminating the face. Centers for Disease Control and Prevention (CDC) National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) also regulate N95 respirators.

What guidance is available about fit-testing N95s in the current situation?

OSHA issued temporary enforcement guidance on March 14th 2020

This temporary enforcement guidance suspends the annual fit testing requirement of N95 filtering facepiece respirators. However, initial fit tests for healthcare personnel with the same model, style, and size respirator are still required.


NIOSH Science Blog

The Need for Fit Testing During Emerging Infectious Disease Outbreaks

“This all boils down to a simple reality: if the respirator does not form a seal with the face, it cannot provide the expected level of protection.”

https://blogs.cdc.gov/niosh-science-blog/2020/04/01/fit-testing-during-outbreaks/
N95 decontamination: How long can you use an N95 without decontaminating?

Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings

Background
This document recommends practices for extended use and limited reuse of NIOSH-certified N95 filtering facepiece respirators (commonly called “N95 respirators”). The recommendations are intended for use by professionals who manage respiratory protection programs in healthcare institutions to protect health care workers from job-related risks of exposure to infectious respiratory illnesses.

https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html
https://multimedia.3m.com/mws/media/1824869O/decontamination-methods-for-3m-n95-respirators-technical-bulletin.pdf
Is it safe to write on masks/respirators (e.g. N95) as part of the decontamination process?
Crisis Standards of Care Decontamination Recommendations

Ultraviolet germicidal irradiation (UVGI), vaporous hydrogen peroxide (VHP), and moist heat showed the most promise as potential methods to decontaminate FFRs. Therefore, researchers, decontamination companies, healthcare systems, or individual hospitals should focus current efforts on these technologies. Specifically, the effectiveness of using these methods should be explored further with specific FFR models based on the manufacturers’ support to better understand the impact on the respirator performance, including filtration and fit. The respirator manufacturer should be consulted about the impact of the method on their respirators before considering the use of any method.

QUESTION:

What do I do if my respirator looks like it has a valve on the front?

versus
NETEC Resources

Amanda Grindle, MSN, RN, CNL, CPN, CCRN
Slide 8: COVID-19 PPE for Healthcare Personnel PDF Poster

Slide 9&10: NETEC COVID-19 PPE Donning and Doffing PDF Poster
https://repository.netecweb.org/files/original/dca73031fbbc6c342e084bc2929732ef.pdf

Slide 12: PPE Tips for Encouraging Wearer Compliance

Slide 12: A Lot of PPE Doesn’t Fit Women Article

Slide 13: Strategies for Optimizing the Supply of Facemasks

Slide 14: Strategies for Optimizing the Supply of PPE and Equipment
Resources

https://www.fema.gov/media-library-data/1587131519031-6501ee8a0ce72004832fa37141c53bc0/PPE_FACTSHEET.pdf

Slide 15: Medical Glove Conservation Strategies: Letter to Health Care Providers

Slide 15: Strategies for Reuse and Extended Use of PPE During COVID-19 Outbreak

Slide 17: COVID-19, Shortages of Masks and the Use of Cloth Masks as a Last Resort

Slide 17: Strategies for Optimizing the Supply of Facemasks

Slide 17: Use of Cloth Face Coverings to Help Slow the Spread of COVID-19
Slide 17: Simple Respiratory Protection – Evaluation of the Filtration Performance of Cloth Masks
https://academic.oup.com/annweh/article/54/7/789/202744

Slide 17: Testing the Efficacy of Homemade Masks: Would They Protect in an Influenza Pandemic

Slide 18: Healthcare Respiratory Protection Resources
https://www.cdc.gov/niosh/npptl/hospresptoolkit/fittesting.html


Slide 18: OSHA Transcript for the OSHA Training Video Entitled Respirator Fit Testing
https://www.osha.gov/video/respiratory_protection/fittesting_transcript.html

Slide 18: OSHA Enforcement Guidance for Respiratory Protection and the N95 Shortage due to COVID-19
Recommended Guidance for Extended use and Limited Reuse of N95 FFR in Healthcare Settings

https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html

Nebraska Medicine COVID-19 PPE Guidance for Extended Use and Reuse of Facemasks, Respirators and Protective Eyewear for Healthcare Personnel


Change in U.S. Law Will Make Millions More Masks Available to Doctors and Nurses


Hospitals Scramble to Keep Up with CDC N95, Mask Guidance

https://www.cidrap.umn.edu/news-perspective/2020/03/hospitals-scramble-keep-cdc-n95-mask-guidance

N95 Respirators and Surgical Masks


Healthcare Respiratory Protection Annual Fit-Testing for N95 FFR During the COVID-19 Outbreak

Resources

- Slide 22: The Need for Fit Testing During Emerging Infectious Disease Outbreaks
  https://blogs.cdc.gov/niosh-science-blog/2020/04/01/fit-testing-during-outbreaks/

- Slide 23: The Need for Fit Testing During Emerging Infectious Disease Outbreaks
  https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html

- Slide 23: 3M Decontamination Methods for 3M FFR such as N95 Respirators
  https://multimedia.3m.com/mws/media/1824869O/decontamination-methods-for-3m-n95-respirators-technical-bulletin.pdf [multimedia.3m.com]

- Slide 25: Decontamination and Reuse of Filtering Facepiece Respirators

- Additional Linkable Resource: Understanding the Use of Imported Non-NIOSH-Approved Respirators

- Additional Linkable Resource: FDA Letter to Manufacturers of Imported, Non-NIOSH—Approved Disposable FFRs
  https://www.fda.gov/media/136403/download

- Additional Linkable Resource: FDA – The Authorized Respirators
  https://www.fda.gov/media/136663/download
NETEC will continue to build resources, develop online education, and deliver technical training to meet the needs of our partners.

Ask for help!

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Submit a Technical Assistance request at NETEC.org
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and
Answers
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