CREATING A RESPIRATORY PROTECTION PROGRAM

Good to Know

- Continuing education documents only for the live webinar will be provided by Monday April 20, 2020.
- The webinar is being recorded and will be on the TMC COVID-19 Resource Page
- Handouts are located on the right side of your screen

Handouts for today's webinar.
Click to download.

- Q and A will be held during the last 15 minutes of the webinar
Disclaimer

- Karen Gregory RN is an employee of Total Medical Compliance.
- She is a Hu-Friedy Key Opinion Leader, a consultant for SciCan and serves on the OSAP Board of Directors.
- This does not serve as legal or medical advice.

Objectives

- Discuss the difference between a ASTM level 2 and level 3 mask.
- Recognize different levels of respirators.
- Discuss the elements of a respiratory protection plan.
- Explain two types of fit testing processes.
CDC IC Update – April 13, 2020

- Source control for everyone entering a healthcare facility (e.g., healthcare personnel, patients, visitors), regardless of symptoms.
- Everyone entering the facility to wear a cloth face covering (if tolerated) while in the building, regardless of symptoms.
  - Facemasks, if available, should be reserved for HCP.
- Actively screen healthcare workers for fever and symptoms of COVID-19 before they enter the healthcare facility.
  - As part of source control efforts, HCP should wear a facemask at all times while they are in the healthcare facility.
  - To avoid risking self-contamination, HCP should consider continuing to wear their respirator or facemask (extended use) instead of intermittently switching back to their cloth face covering.

CDC Dental Update: April 7, 2020

- If a patient arrives at your facility and is suspected or confirmed to have COVID-19, take the following actions:
- Defer dental treatment
  - Give the patient a mask to cover his or her nose and mouth.
  - If not acutely sick, send the patient home and instruct the patient to call a medical provider.
  - If acutely sick (for example, has trouble breathing) refer the patient to a medical facility.
- Emergency dental care is medically necessary for a patient who has, or is suspected of having COVID-19, Airborne Precautions (an isolation room with negative pressure relative to the surrounding area and use of an N95 filtering disposable respirator for persons entering the room) should be followed.
  - Dental treatment should be provided in a hospital or other facility that can treat the patient using the appropriate precautions.
CDC Dental Update: April 7, 2020

■ Avoid aerosol generating procedures whenever possible. Avoid the use of dental handpieces and the air-water syringe. Use of ultrasonic scalers is not recommended during this time.

■ Prioritize minimally invasive/atraumatic restorative techniques (hand instruments only).

■ If aerosol generating procedures are necessary for emergency care, use four-handed dentistry, high evacuation suction and dental dams to minimize droplet spatter and aerosols.

CDC Dental Update: April 7, 2020

■ If available, wear gloves, a gown, eye protection (i.e., goggles or a disposable/reusable face shield that covers the front and sides of the face), and an N95- or higher-level respirator during emergency dental care for patients without COVID-19.
  - Disposable respirators should be removed and discarded after exiting the patient’s room or care area.
  - Reusable eye protection must be cleaned and disinfected according to manufacturer’s reprocessing instructions prior to re-use. Disposable eye protection should be discarded after use.
  - Change gown if it becomes soiled. Remove and discard the gown in a dedicated container for waste or linen before leaving the patient room or care area. Disposable gowns should be discarded after use. Cloth gowns should be laundered after each use.

■ If the minimally acceptable combination of a surgical mask and a full-face shield is not available, do not perform any emergency dental care. Refer the patient to a clinician who has the appropriate PPE.
Flatten the Curve

Clinical Presentation

- Incubation period ~5 day (2 – 14 days)
- Symptoms at onset
  - Fever (83–99%)
  - Cough (59–82%)
  - Fatigue (44–70%)
  - Anorexia (40–84%)
  - Shortness of breath (31–40%)
  - Sputum production (28–33%)
  - Myalgias (11–35%)

Clinical Course

- Mild to moderate (mild symptoms up to mild pneumonia): 81%
- Severe (dyspnea, hypoxia, or >50% lung involvement on imaging): 14%
- Critical (respiratory failure, shock, or multiorgan system dysfunction): 5%


CDC Director Interview Excerpts

- Dr. Robert Redfield
- One of the [pieces of] information that we have pretty much confirmed now is that a significant number of individuals that are infected actually remain asymptomatic. That may be as many as 25%.
- And finally, of those of us that get symptomatic, it appears that we're shedding significant virus in our oropharyngeal compartment, probably up to 48 hours before we show symptoms.

https://www.npr.org/sections/health-shots/2020/03/31/824155179/cdc-director-on-models-for-the-months-to-come-this-virus-is-going-to-be-with-us
Mode of Transmission

- **Person-to-person transmission**
- Primarily via respiratory droplets produced when the infected person coughs or sneezes.
  - Droplets can land in the mouths, noses, or eyes of people who are nearby and may possibly be inhaled into the lungs of those people through the nose.
- The contribution of small respirable particles, sometimes called aerosols or droplet nuclei, to close proximity transmission is currently uncertain.

OSHA Guidance on Preparing Workplaces for COVID-19

Very High Exposure Risk

Very high exposure risk jobs are those with high potential for exposure to known or suspected sources of COVID-19 during specific medical, postmortem, or laboratory procedures. Workers in this category include:

- Healthcare workers (e.g., doctors, nurses, dentists, paramedics, emergency medical technicians) performing aerosol-generating procedures (e.g., intubation, cough induction procedures, bronchoscopies, some dental procedures and exams, or invasive specimen collection) on known or suspected COVID-19 patients.

Workers, including those who work within 6 feet of patients known to be, or suspected of being, infected with SARS-CoV-2 and those performing aerosol-generating procedures, need to use respirators:
Workplace Protections - Workers

- Workers stay at home when showing signs of illness
- Only workers essential for patient care
- Stagger shifts to increase physical distance of workers
- Check temperatures of healthcare workers prior to entry to workplace
- Discourage workers from sharing equipment such as desk, phones or computers
- Do not require a healthcare provider’s note for return to work
Workplace Protections - Patients

- Reduce number of patients being seen
- Have patients wait in the car if possible
- Allow only the patient to enter the practice
- Check temperatures PRIOR to patient entry in to practice
- Remove magazines/toys from Lobby
- Reducing face-to-face HCP encounters with patients
  - Maximizing use of telemedicine

Triage – Advance and Arrival

Emergent procedures only at this time

- Contact patients in advance for screening
- Consider rescheduling of patients with positive responses to screening criteria
- Consider notice on website encouraging sick patients to reschedule appointments OR to contact the office prior to arrival
- Place notification on entry to practice or facility
From the GDA

- Fever
- Currently has a cough or shortness of breath
- History of significant chronic illness or compromised immune system
- You or a family member are considered high-risk
- You or a family member have traveled to a location with a level 3 travel health notice
- Airline travel in the past 2 weeks
- Previously asked to self-isolate or self-quarantine
- Close contact to an individual diagnosed with COVID-19 infection
Contact your local or state health department
Healthcare providers should immediately notify their local external icon or state external icon health department in the event of the identification of a PUI for COVID-19. When working with your local or state health department check their available hours.

TRANSMISSION-BASED PRECAUTIONS
COVID-19 Personal Protective Equipment (PPE) for Healthcare Personnel

**Preferred PPE – Use N95 or Higher Respirator**
- Face shield or goggles
- N95 or higher respirator
- When respirators are not available, use the best available alternative, like a facemask.
- One pair of clean, non-sterile gloves
- Isolation gown

**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

[cdc.gov/COVID19]
- Gown
- Mask
  - Level II ASTM
  - N95 Respirator – aerosol generating procedures
- Eye protection
  - Goggles
  - Glasses with side shields
  - Face shield
- Gloves

**MASKS, N95, SURGICAL N95**

Surgical Masks

- FDA reviews and clears; class II medical device.
- Different thicknesses and ability to protect from contact with liquids.
- Block large-particle droplets, splashes, sprays, or splatter.
  - Protect the environment from the wearer
- Reduce exposure of the worker’s secretions.
- Do not provide complete protection because of the loose fit.

FDA: https://www.fda.gov/medical-devices/personal-protective-equipment-infection-control/n95-respirators-and-surgical-masks-face-masks#s2

ASTM - Standards Setting

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid Resistance</td>
<td>Mask resistance to penetration by synthetic blood under pressure (mmHg).</td>
</tr>
<tr>
<td></td>
<td>Higher fluid resistance = Higher protection.</td>
</tr>
<tr>
<td>BFE - Bacterial Filtration Efficiency</td>
<td>Percentage of aerosol particles filtered at a size of 3 microns.</td>
</tr>
<tr>
<td>PFE - Submicron Particle Filtration Efficiency</td>
<td>Percentage of submicron particles filtered at 0.1 microns.</td>
</tr>
<tr>
<td>Delta P - Differential Pressure</td>
<td>Pressure drop across mask, or resistance to air flow in mmHg/cm².</td>
</tr>
<tr>
<td></td>
<td>Greater resistance = better filtration but less breathability.</td>
</tr>
<tr>
<td>Flame Spread</td>
<td>Measures the flame spread of the mask material.</td>
</tr>
</tbody>
</table>

Crosstex
Examples of Mask Use - Dental

**Level 1**
- Patient exams
- Op cleaning
- Impressions
- Lab work (trim/polish)
- Orthodontics

**Level 2**
- Limited oral surgery
- Endodontics
- Prophy
- Restorative
- Sealants

**Level 3**
- Complex oral surgery
- Crown prep
- Implant
- Periodontal surgery
- Ultrasonic scaling

Crosstex Secure Fit Mask Technology
NIOSH Approved Respirators

- N95: filter class that removes at least 95% of airborne particles during “worst case” testing using a “most-penetrating” sized particle during NIOSH testing
- 0.3 micron particle
- Respirator filter certification - 84 L/min, well above the typical 10 to 30 L/min breathing rates.

Levels/Types of Respirators

- Rated
  - “N,” if they are Not resistant to oil
  - “R” if somewhat Resistant to oil
  - “P” if strongly resistant (oil Proof)
- Filtering capacity
  - N-95, N-99, and N-100
  - R-95, R-99, and R-100
  - P-95, P-99, and P-100
N95 Respirator Healthcare

- Class II medical device
- NIOSH approved
- Tight seal over the mouth and nose
- Fit-testing
- Fluid resistant

FDA.gov

FDA Responds to CDC Request

- [Emergency Use Authorization](https://www.fda.gov) 3.28.20
- All disposable filtering facepiece respirators (FFRs) approved by the National Institute for Occupational Safety and Health (NIOSH)
  - [Passed the manufacturers' recommended shelf-life, for use in healthcare settings by healthcare personnel](https://www.fda.gov)
  - [Information on Respirator Use](https://www.fda.gov)
N95 Respirator - Industrial

- Tight seal over the mouth and nose
- Fit-testing required
- Not necessarily fluid resistant
- Regulated by:
  - National Protective Technology Laboratory (NPPTL)
  - National Institute for Occupational Safety and Health (NIOSH)

Low Supply N95 Respirators From Outside US

<table>
<thead>
<tr>
<th>Country</th>
<th>Performance Standard</th>
<th>Acceptable Product Classification</th>
<th>May Be Used in Lieu of NIOSH-Certified Products Classified as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>AS/NZS 1716:2012</td>
<td>P2</td>
<td>N95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P3</td>
<td>N99 or lower</td>
</tr>
<tr>
<td>Brazil</td>
<td>ABNT/NBR 13698:2011</td>
<td>PFF2</td>
<td>N95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PFF3</td>
<td>N99 or lower</td>
</tr>
<tr>
<td>People's Republic of China</td>
<td>GB 2626-2006</td>
<td>KN/KP95</td>
<td>N95</td>
</tr>
<tr>
<td></td>
<td>GB 2626-2019</td>
<td>KN/KP100</td>
<td>N95</td>
</tr>
<tr>
<td>Europe</td>
<td>EN 149-2001</td>
<td>P2</td>
<td>N95</td>
</tr>
</tbody>
</table>

Surgical Mask
- Prevents release of contaminants into the air
- Protects user from large droplets, sprays, splashes

N95 Respirator
- Reduces wearer’s exposure to particles including small particle aerosols and large droplets

Surgical N95 Respirator
- Used in healthcare settings where sterile fields must be maintained
- Barrier to splashes and sprays.

COVID – 19 Respiratory Protection

First
N95 respirator

Second
Facemasks are an acceptable alternative when the supply chain of respirators is depleted

Third
Available respirators for procedures that are likely to generate respiratory aerosols

Add face shield
Or face mask
Respiratory Protection 1910. 134

- Applies:
  - Exposed to a hazardous level of an airborne contaminant; or
  - Required by the employer to wear respirators; or
  - Permitted to wear respirators

- Goal for our purposes is prevention of the transmission of aerosol transmissible diseases
  - Measles, chicken pox, TB
  - ? COVD - 19

- Written Respiratory Protection Program (RPP)

Process

- Elimination/Substitution
  - Patient identification

- Engineering controls
  - AIIR

- Administrative
  - Vaccination

- Work Practice
  - Resp Hygiene/Cough Etiquette

- Respirators
Elements of the RPP

- Designation of a program administrator
- Policies and procedures
  - Hazard evaluation and respirator selection
  - Medical evaluation of respirator wearers
  - Fit testing procedures for tight-fitting respirators
  - Procedures for proper use, storage, maintenance, repair, and disposal of respirators
  - Training
  - Program evaluation including consultation with employees
  - Recordkeeping

Hazard Assessment

- Infectious agents – May not be able to quantify level of exposure OR know what level of exposure will cause infection to an individual
- Identify and evaluate potential exposures to infectious agents by task
- For novel or emerging infectious diseases guidance provided by CDC, OSHA and other agencies
Questions to Answer

- Who is exposed to suspected or confirmed COVID patients?
- Who will greet and triage patients
- Who will be involved in aerosol generating procedures?
- Who will be cleaning the room after the procedure?
- Will contracted workers be allowed in the facility to be involved in care?

Aerosol – Generating Procedures

- Some procedures performed on patient with known or suspected COVID-19 could generate infectious aerosols. In particular, procedures that are likely to induce coughing (e.g., sputum induction, open suctioning of airways) should be performed cautiously and avoided if possible.
- If performed, the following should occur:
  - HCP in the room should wear an N95 or higher-level respirator, eye protection, gloves, and a gown.
  - The number of HCP present during the procedure should be limited to only those essential for patient care and procedure support. Visitors should not be present for the procedure.
  - AGPs should ideally take place in an airborne infection isolation room (AIIR).
  - Clean and disinfect procedure room surfaces promptly as described in the section on environmental infection control below.

Dental Guidance

- Caring for patients requiring Transmission-Based Precautions is not possible in most dental settings as they are not designed for or equipped to provide this standard of care.
- For example, most dental settings do not have airborne infection isolation rooms or single-patient rooms, do not have a respiratory protection program, and do not routinely stock N95 respirators.


Respirator Selection

- Personal protective device that is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer’s risk of inhaling hazardous airborne particles
- Air purifying respirators filter out airborne particles
  - Disposable or filtering facepiece (FFP)
  - Reusable or elastomeric respirators
  - Powered air purifying respirators (PAPRs)

https://www.cdc.gov/niosh/npptl/topics/respirators/factsheets/respsars.html
Description

- **Particulate filtering facepiece respirators**
  - Disposable
  - Commonly referred to as “N95s”
  - Filter out at least 95% of airborne particles during “worse case” testing using a “most-penetrating” sized particle

- **Elastomeric respirators**
  - Reusable respirators because the facepiece is cleaned and reused
  - Filter cartridges are discarded and replaced when they become unsuitable for further use

- **Powered air-purifying respirators (PAPRs)**
  - Battery-powered blower moves the airflow through the filters.

---

**Major Types of Respirators**

Air-purifying respirators, which remove contaminants from the air.

- Half mask/Dust mask
  - APF=10
  - Needs to be fit tested

- Half mask (Elastomeric)
  - APF=10
  - Needs to be fit tested

- Full facepiece (Elastomeric)
  - APF=50
  - Needs to be fit tested

Assigned protection factor

Counterfeit Respirators

Example of typical markings on filtering facepiece respirators.

- TC.XXXX.XXXX – TC approval number
- Model #: XXX – Model number
- Lot #: XXX – Lot number (recommended)
- NIOSH – NIOSH name in block letters on a NIOSH logo
- N95 R – N95 filtration level
- Filter Designation – NIOSH filter rating (e.g., N95, R95)

EXTerior VIEW
Medical Evaluation

- Prior to fit testing, change in worker health status or job demand
- The medical evaluation
  - physician or other licensed healthcare professional review responses to the questionnaire
  - "in-person" medical examination that obtains the same information
- Confidential health information

Statement on Respirator Use

1. Whether you are medically able to wear the respirator and if you have any medical limitations for using the respirator;
2. The need, if any, for you to have follow-up medical evaluations;
3. A statement that the doctor or licensed healthcare professional has provided you with a copy of their written recommendation.

Fit Test: Comfort and Tight Fit

- Qualitative fit test is a pass/fail test that relies on the individual’s sensory detection of a test agent, such as taste, smell, or involuntary cough
  - Saccharin solution
  - Bitrex solution
  - Irritant smoke
- Quantitative fit test uses an instrument to numerically measure the effectiveness of the respirator.

https://www.osha.gov/Publications/OSHA3767.pdf
Respiratory Protection
Fit Testing Resource

- Filtering Out Confusion

Training Required

- Why you need to use the respirator;
- What the respirator can and cannot do to protect you;
- How to properly inspect, put on and take off, and use your respirator;
- How to check the seal of your respirator (also called a “user seal check”);
- How to use the respirator effectively in emergency situations, including situations in which the respirator doesn’t work properly;
- How to recognize medical signs and symptoms that may limit or prevent you from using a respirator;
- How improper fit, usage, or maintenance can reduce your respirator's ability to protect you;
- What the procedures are for maintenance and storage of the respirator; and
- What the requirements are for federal OSHA's or your State OSHA's Respiratory Protection Standards.
Putting On The Respirator

Position the respirator in your hands with the nose piece at your fingertips.

Cup the respirator in your hand allowing the headbands to hang below your hand. Hold the respirator under your chin with the nosepiece up.

The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears. Do not stretch straps.

Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.

Checking Your Seal

Place both hands over the respirator, take a quick breath in to check whether the respirator seals tightly to the face.

Place both hands completely over the respirator and exhale. If you feel leakage, there is not a proper seal.

If air leaks around the nose, re-adjust the nosepiece as described. If air leaks at the mask edges, re-adjust the strap along the sides of your head until a proper seal is achieved.

If you cannot achieve a proper seal due to air leakage, ask for help or try a different size or model.
Removing Your Respirator

1. **DO NOT TOUCH** the front of the respirator. It may be contaminated.
2. Remove by pulling the bottom strap over back of head, followed by the top strap, without touching the respirator.
3. Discard in waste container. WASH YOUR HANDS.
Surge Capacity

- **Conventional capacity**: No change in the delivery of patient care.
- **Contingency capacity**: May change daily practices but may not have any significant impact on the care delivered to the patient or the safety of healthcare personnel.
- **Crisis capacity**: Are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known facemask shortages.


Assumptions

- Aware of facemask inventory and supply chain.
- Aware of facemask utilization rate.
- Facilities are in communication with local healthcare coalitions, federal, state, and local public health partners (e.g., public health emergency preparedness and response staff) regarding identification of additional supplies.
- Facilities have already implemented other **engineering and administrative control measures** including:
  - *Reduction in number of patients seen*
  - *Reducing face-to-face HCP encounters with patients*
  - *Maximizing use of telemedicine*
- Training for any changes to normal processes.

Contingency Capacity - Masks

- Selectively cancel elective and non-urgent procedures and appointments for which a facemask is typically used by HCP.

- Remove facemasks for visitors in public areas.
  - Available to provide to symptomatic patients upon check in at entry points. All facemasks should be placed in a secure and monitored site.

- Implement extended use of facemasks.
  - Wearing the same facemask for repeated close contact encounters with several different patients, without removing the facemask between patient encounters.

- Restrict facemasks to use by HCP, rather than patients for source control
  - *Patients cover nose/mouth with tissues.*
Crisis Capacity - Masks

- Cancel all elective and non-urgent procedures and appointments
- Use facemasks beyond the manufacturer-designated shelf life
- Implement limited re-use of facemasks - using the same facemask by one HCP for multiple encounters with different patients but removing it after each encounter.
  - Carefully remove, not touching front of mask
  - Discard if soiled, damaged, hard to breath through
  - Masks with elastic loops better choice

No Facemasks

- Exclude HCP at higher risk for severe illness from COVID-19 from contact with known or suspected COVID-19 patients.
- Designate convalescent HCP for provision of care to known or suspected COVID-19 patients.
- Use a face shield that covers the entire front (that extends to the chin or below) and sides of the face with no facemask.
Prioritize N95 Use

- Minimize the need: Hierarchy Of Controls
- Use alternatives to N95 respirators (e.g., other classes of filtering facepiece respirators, elastomeric half-mask, powered air purifying respirators)
- Extended use and/or limited reuse of N95 respirators
- N95 respirators used by those at highest risk of contracting or experiencing complications of infection

https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html
Extended Use: N95 Respirator

- Wearing the same N95 respirator for close contact encounters with several patients, without removing the respirator between patient encounters
- Involves less touching of the respirator and therefore less risk of contact transmission

Limited Reuse: N95 Respirators

- Using the same N95 respirator, for multiple encounters, different patients BUT removing it after each encounter.
- Consult with manufacturer regarding maximum uses.
  - No guidance available: no more than 5 uses
- Do NOT share N95 and other disposable respirators

Contamination is a Risk

- The surfaces will become contaminated with pathogens while filtering the air inhaled during aerosol exposures.
- Cross-contamination to worker:
  - adjusting the respirator,
  - improper doffing of the respirator
  - when performing a user-seal check when redonning a previously worn respirator
- Address how respirators will be stored.

Contamination is a Risk

- Respirators grossly contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients should be discarded.
- HCP can consider using a face shield or facemask over the respirator to reduce/prevent contamination of the N95 respirator.
- HCP re-using an N95 respirators should use a clean pair of gloves when donning or adjusting a previously worn N95 respirator.
- It is important to discard gloves and perform hand hygiene after the N95 respirator is donned or adjusted.
Donning the Respirator

■ Avoid touching the inside of the FFR.
■ Visually inspect the FFR to determine if its integrity has been compromised.
■ Check that components such as the straps, nose bridge, and nose foam material did not degrade, which can affect the quality of the fit, and seal.
■ Clean hands with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the FFR.
■ Use clean gloves when donning and performing a user seal check.
■ If the integrity of any part of the FFR is compromised, or if seal check fails, discard the FFR and try another FFR.

Storage

■ Manufacturers provide instructions for cleaning, sanitizing, repairing, inspecting, and storing their respirators.
■ Packed or stored so that the respirators do not become damaged or deformed.
■ Never store disposable respirators in pockets, plastic bags, or other confined areas.
■ Remove the respirator and either hang it in a designated area or place it in a bag
  - Label respirators with a user’s name before use
One Strategy

- Issue each HCP who may be exposed to COVID-19 patients five respirators
- Use one respirator on an assigned day
- Store in a breathable paper bag until the next week
- This amount of time in between uses should exceed the 72 hour expected survival time for SARS-CoV2 (the virus that caused COVID-19).³
- HCP should still treat the respirator as though it is still contaminated and follow the precautions outlined in CDC’s re-use recommendations.

Decontamination

- Guidance on potential methods

Decontamination and Reuse of Filtering Facepiece Respirators

Disposable filtering facepiece respirators (FFRs) are not approved for routine decontamination and reuse as standard of care. However, FFR decontamination and reuse may need to be considered as a crisis capacity strategy to ensure continued availability. Based on the limited research available, ultraviolet germicidal irradiation, vaporized hydrogen peroxide, and moist heat showed the most promise as potential methods to decontaminate FFRs. This document summarizes research about decontamination of FFRs before reuse.

Introduction

Reusing disposable filtering facepiece respirators (FFRs) has been suggested as a contingency capacity strategy to conserve available supplies for healthcare environments during a pandemic. Strategies for FFR extended use and reuse (without decontamination of the respirator) are currently available from CDC’s National Institute for Occupational Safety and Health (NIOSH).

After Patient Discharge

- Disinfect surfaces with EPA registered hospital level disinfectant
- EPA list of products
- American Chemistry

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency *

<table>
<thead>
<tr>
<th>ACH 5̈</th>
<th>Time (mins.) required for removal 99% efficiency</th>
<th>Time (mins.) required for removal 99.9% efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>138</td>
<td>207</td>
</tr>
<tr>
<td>4</td>
<td>69</td>
<td>104</td>
</tr>
<tr>
<td>6̈</td>
<td>46</td>
<td>69</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>52</td>
</tr>
<tr>
<td>10̈</td>
<td>28</td>
<td>41</td>
</tr>
</tbody>
</table>

SOURCE: www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html#b1
HCP Exposure

Test-based strategy. Exclude from work until
- Resolution of fever without the use of fever-reducing medications and
- Improvement in respiratory symptoms (e.g., cough, shortness of breath), and

Non-test-based strategy. Exclude from work until
- At least 3 days (72 hours) have passed since recovery defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath); and,
- At least 7 days have passed since symptoms first appeared

If HCP were never tested for COVID-19 but have an alternate diagnosis (e.g., tested positive for influenza), criteria for return to work should be based on that diagnosis.

HCP Return to Work

- Wear a facemask at all times while in the healthcare facility until all symptoms are completely resolved or until 14 days after illness onset, whichever is longer
- Be restricted from contact with severely immunocompromised patients (e.g., transplant, hematology-oncology) until 14 days after illness onset
- Adhere to hand hygiene, respiratory hygiene, and cough etiquette in CDC’s interim infection control guidance (e.g., cover nose and mouth when coughing or sneezing, dispose of tissues in waste receptacles)
- Self-monitor for symptoms, and seek re-evaluation from occupational health if respiratory symptoms recur or worsen
Good to Know

- A copy of handouts will be emailed along with the CE document.
- Continuing education documents only for the live webinar will be provided by Monday April 20, 2020.
- The webinar is being recorded and will be on the TMC COVID-19 Resource Page
Thank you!

Karen Gregory, RN
Director of Compliance and Education
Service@totalmedicalcompliance.com
888.862.6742