IAFC WEBINARS

COVID-19 Weekly Updates
Mondays at 4 PM ET

iafc.org/covid19
Before we begin

If you have any questions about COVID-19 or information presented in this webinar, please email our taskforce at covid19tf@iafc.org
INTRODUCTION OF PANELISTS

Chief Gary Ludwig, IAFC President

Dr. Jim Augustine, MD, FACEP, IAFC COVID-19 TF, EMS Section Representative

Mr. Ken LaSala, IAFC Director of Government Relations

Chief Tom Jenkins, IAFC President 2018-19, Chair Lessons Learned Work Group

AND SPECIAL GUESTS

Fire Chief Steve Pegram, Chair Economic Crisis Task Force

Christina Baxter PhD, Emergency Response Tips, LLC
Fire Chief Gary Ludwig

IAFC President
Dr. James Augustine MD, FACEP

Member COVID19 Task Force
Coronavirus What we are Learning

• Patient symptoms on EMS presentation = wide
• Pulse Oximetry is the best monitor device for the patient to determine “how sick”
• Symptom checking and a thermometer are the best way to check if our members are sick
• Changes in Resuscitation are occurring
Patient Approach - Resuscitation

- **Scout person** – what is the history?
- No mouth-to-mouth
- Compressions and Electricity
- Minimize spray from the patient
- Intubation versus “Other Airway”
- Termination of Resuscitation
The EMS Challenges

- Update on Resuscitation
- The (short) title is below, and the link is: https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.120.047463

10.1161/CIRCULATIONAHA.120.047463

- Interim Guidance for Basic and Advanced Life Support in Adults, Children, and Neonates With Suspected or Confirmed COVID-19: From the Emergency Cardiovascular Care Committee and Get With the Guidelines®-Resuscitation Adult and Pediatric Task Forces of the American Heart Association in Collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society of Critical Care Anesthesiologists, and American Society of Anesthesiologists:
- Supporting Organizations: American Association of Critical Care Nurses and National EMS Physicians
- Running Title: Edelson et al.: Interim Guidance for Life Support for COVID-19
Workforce Safety

Personnel Health and Safety

– Station common areas – surgical/personal masks
– Checking personnel health on arrival for shift or response – symptoms first, then temperature
– Health monitor process/forms each staff member

“What we can’t do during a battle, is lose our forces.”

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iafc.org/covid19
CDC Guidance Update.
April 8

Interim Guidance for Implementing Safety Practices for Critical Infrastructure Workers Who May Have Had Exposure to a Person with Suspected or Confirmed COVID-19

To ensure continuity of operations of essential functions, CDC advises that critical infrastructure workers may be permitted to continue work following potential exposure to COVID-19, provided they remain asymptomatic and additional precautions are implemented to protect them and the community.

A potential exposure means being a household contact or having close contact within 6 feet of an individual with confirmed or suspected COVID-19. The timeframe for having contact with an individual includes the period of time of 48 hours before the individual became symptomatic.

Critical Infrastructure workers who have had an exposure but remain asymptomatic should adhere to the following practices prior to and during their work shift:

- **Pre-Screen:** Employers should measure the employee’s temperature and assess symptoms prior to them starting work. Ideally, temperature checks should happen before the individual enters the facility.
- **Regular Monitoring:** As long as the employee doesn’t have a temperature or symptoms, they should self-monitor under the supervision of their employer’s occupational health program.
- **Wear a Mask:** The employee should wear a face mask at all times while in the workplace for 14 days after last exposure. Employers can issue face masks or can approve employees supplied cloth face coverings in the event of shortages.
- **Social Distance:** The employee should maintain 6 feet and practice social distancing as work duties permit in the workplace.
- **Disinfect and Clean:** Workspaces: Clean and disinfect all areas such as offices, bathrooms, common areas, shared electronic equipment routinely.

If the employee becomes sick during the day, they should be sent home immediately. Surfaces in their workspace should be cleaned and disinfected. Information on persons who had contact with the ill employee during the time the employee had symptoms and 2 days prior to symptoms should be compiled. Others at the facility with close contact within 6 feet of the employee during this time would be considered exposed.

Employers should implement the recommendations in the Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 (COVID-19) to help prevent and slow the spread of COVID-19 in the workplace. Additional information about identifying critical infrastructure during COVID-19 can be found on the DHS CISA website or the CDC’s specific First Responder Guidance page.
Testing for the Virus

- PCR = Polymerase Chain Reaction
- A method to analyze for a short sequence of RNA
- A swab of nose or throat
- Some with rapid answers
Testing for Antibodies

• Antibody Testing
• IgM
• IgG
Testing for Antibodies

• Some with rapid answers
COVID Testing Sequence

- Testing is becoming available
- Some with rapid answers looking for the virus
- Then the application of antibody tests

<table>
<thead>
<tr>
<th>Test Results</th>
<th>Clinical Significance</th>
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<tbody>
<tr>
<td>PCR</td>
<td>IgM</td>
</tr>
<tr>
<td>+</td>
<td>-</td>
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Time Sequence

References:

iafc.org/covid19
When Will This End?
IAFC WEBINARS

iafc.org/covid19

Ken LaSala
IAFC Government Relations Director
Government Relations

CMS Funding to Fire and EMS organizations

Discussed supply chain issues with USFA

4th COVID-19 Bill
Direct Funding to Reimburse Fire & EMS Departments for COVID-19 Response Expenses
Repeal of T-Band Auction
Protect Jobs of Volunteer Fire & EMS
Fire Chief Steve Pegram
Goshen (IN) Fire Department
Chair Economic Crisis Task Force
Economic Task Force

Goals for the Economic Task Force at this point:

To help fire and EMS chiefs' access local, state and especially federal funding being made available in response to the coronavirus pandemic.

To help fire and EMS chiefs plan and prepare for the economic impact of the pandemic on our communities, both internally at our departments and externally in our communities.
CARES ACT

Non-Profit 501(c)(3) and 501(c)(4) Eligible Volunteer Departments who pay personnel may be eligible for Paycheck Protection Program (PPP)

Up to 2 million Dollar Loans for Working Capitol (2.75% Interest Rate)
AFG Grant

100 Million Dollars
Specific for COVID19 PPE Only
FEMA GO Application
Reimbursement and Future Purchase
Late march open date
Member Survey / Dashboards

Survey on Economic Impact of COVID

Two Areas of interest or concern

1. Cost of Response
2. Impact on Local Economy/Budgets
Dr. Christiana Baxter

CEO, Emergency Response TIPS, LLC

christinabaxter@emergencyresponsetips.com
Currently available research supports the possibility that SARS-CoV-2 could be spread via bioaerosols generated directly by patients’ exhalation.

- National Academy of Sciences Standing Committee on Emerging Infectious Diseases

Current data suggests:

- Bioaerosols collected > 6’, but <14’ from patients were positive with SARS-CoV-2\(^2,3,4\)
- Viral load from patients in ICU > patients in General Wards\(^4\)
- Highest airborne concentration recorded while patient receiving oxygen via nasal canula\(^2\)
- Cross-contamination from gloves and footwear is significant\(^3,4\)
- High touch surfaces are consistently contaminated (computer mice, trash cans, bed rails, doorknobs).

Currently available evidence supports the use of **Airborne Isolation Precautions**
PPE Escalation

**STANDARD**
- Gloves
- Eye Protection (as needed)
- Mask (as needed)
- Impermeable Gown (as needed)

**CONTACT**
- Gloves (long enough to interface with coveralls)
- Eye Protection (glasses or goggles)
- Mask (ASTM F2100 Level 2 or 3)
- Fluid-Resistant Gown or Coveralls

**DROPLET**
- Gloves (long enough to interface with coveralls)
- Eye Protection (glasses or goggles)
- Mask (ASTM F2100 Level 2 or 3)
- Fluid-Resistant Gown or Coveralls

**AIRBORNE**
- Gloves (long enough to interface with coveralls)
- Eye Protection (non-venting goggles)
- N95 Respirator (or greater)
- Fluid-Resistant Gown, Coveralls, or NFPA 1999 Ensemble

**VIRAL PATHOGEN**
- NFPA 1999 Multi-Use Ensemble
  - OR
  - NFPA 1994 Class 4 Ensemble
  - OR
  - Greater
## PPE – Balancing the Risk

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Recommended Best Practice</th>
<th>Minimum Acceptable Protection</th>
<th>Last Resort</th>
</tr>
</thead>
<tbody>
<tr>
<td>When Respirator Supplies are Available</td>
<td>• N/R/P-100 filtering facepiece respirator (FFR) OR air purifying respirator (APR) or powered air purifying respirator (PAPR) with P100 canister</td>
<td>• N/R/P-95 filtering facepiece respirator</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>• Filters used once and replaced between patients</td>
<td>• APR or PAPR with chemical adsorption canister using a P100 pre-filter</td>
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<tr>
<td></td>
<td></td>
<td>• Interchange of filters and masks that are not certified together is not approved.</td>
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<thead>
<tr>
<th>Phase 2</th>
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</thead>
<tbody>
<tr>
<td>When Respirator Supplies are Low</td>
<td>• Use a medical mask OVER the N95 to extend its use. Replace the medical mask between patients.</td>
<td>• Consider reusing your FFR (store in non-plastic bag between uses)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Utilize emergency rule to allow for APR/PAPR canister interchangeability</td>
<td>• Consider reusing your APR/PAPR canisters (wipe (not spray) down with disinfectant and store in humidity-free environment)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use masks beyond their “expiration date”</td>
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**DO NOT SPRAY FILTER MEDIA**

<table>
<thead>
<tr>
<th>Phase 3</th>
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</thead>
<tbody>
<tr>
<td>When Respirator Supplies are Depleted</td>
<td>• Decontaminate FFPs and reuse (do not share FFPs and APR/PAPR filters between people – maintain individual issue)</td>
<td>• Utilize medical/surgical face masks with priority given to those meeting ASTM F2100 Level 3 (then Level 2, Level 1, Surgical molded utility masks, and finally, utility masks)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Microwave Generated Steam for 1 minute on each side at 1100-1250W (2 min total); Consider placing a paper towel between FFP and glass plate to prevent melting; Consider placing FFP on container containing 50 mL of water to generate steam</td>
<td>• Consider adding reusable and cleanable faceshield to minimize direct exposure with droplets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ultraviolet Germicidal Irradiation (UGVI) for 15 minutes on each side using a device fitted with a 40W UV-C bulb.</td>
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<td></td>
<td></td>
<td>• Consider homemade respiratory products using common fabric materials (note that the protection level will be minimal, at best)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Requires the use of a reusable and cleanable faceshield to minimize direct exposure with droplets</td>
<td></td>
</tr>
</tbody>
</table>
**EMS Escalation**

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>CONTACT</th>
<th>DROPLET</th>
<th>AIRBORNE</th>
<th>VIRAL PATHOGEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess patient from 6’, if possible</td>
<td>ALL STANDARD PLUS:</td>
<td>ALL STANDARD AND CONTACT PLUS:</td>
<td>ALL STANDARD, CONTACT, AND DROPLET PLUS:</td>
<td>ALL STANDARD, CONTACT, DROPLET, and AIRBORNE</td>
</tr>
<tr>
<td>Provide patient with mask (if exhibiting respiratory symptoms)</td>
<td>Consider plastic sheets (between patient and stretcher)</td>
<td>Consider isolating the driver compartment if performing aerosol producing procedures (airway suction, intubation, aerosolized medication administration)</td>
<td>Isolate immediate area &amp; minimize personnel</td>
<td>Isolate driver from patient OR driver dons N95 (minimum)</td>
</tr>
<tr>
<td>Adjust level of precaution as necessary</td>
<td>Not all GI illnesses require droplet precautions (assume C. diff, norovirus, or others until ruled out)</td>
<td>Increase ventilation in patient compartment (place air or heat on non-recirculating cycle and/or open windows)</td>
<td>Minimize personnel exposed to infectious persons</td>
<td>Consider Portable Isolation Units or Ambulance Draping</td>
</tr>
<tr>
<td>Utilize Exhaust fan in EMS transport unit</td>
<td></td>
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</tr>
</tbody>
</table>
**Decontamination Escalation**

- **STANDARD**
  - Wash hands
  - Clean surfaces
  - Disinfect surfaces (EPA-registered)

- **CONTACT**
  - Wash hands
  - Clean surfaces
  - Disinfect surfaces (EPA-registered)

- **DROPLET**
  - Wash hands
  - Clean surfaces
  - Disinfect all impacted areas (EPA-registered)
  - Inspect PPE for visible contamination (decon prior to doffing)

- **AIRBORNE**
  - Wash hands
  - Clean surfaces
  - Disinfect all impacted areas* (EPA-registered)
  - Inspect PPE for visible contamination (decon prior to doffing)

- **VIRAL PATHOGEN**
  - Wash hands
  - Clean surfaces
  - Disinfect all impacted areas* (Peracetic acid-based decontamination)
  - Inspect PPE for visible contamination (decon prior to doffing)

*Remember, adjacent areas could also be impacted*
Selecting a Disinfectant

- Rapid action, even at low concentrations
- Broad-spectrum activity without toxicity
  - Kill claim for *Clostridium difficile* (*C. diff.*)
    - *Hard to destroy*
- pH neutral
- Can be used clothing and sensitive equipment
- Low odor
- Multi-year shelf-life
- Dry materials have longer shelf-lives, but require water to be added
- Easy to mix or use
- Affordability and availability
FDA Emergency Use Authorization Issued March 24, 2020

<table>
<thead>
<tr>
<th>Certification/Class</th>
<th>N95</th>
<th>FFP2</th>
<th>KN95</th>
<th>P2</th>
<th>1st Class</th>
<th>DS</th>
<th>N95</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country</strong></td>
<td>USA</td>
<td>EU</td>
<td>China</td>
<td>AU/NZ</td>
<td>Korea</td>
<td>Japan</td>
<td>Mexico</td>
</tr>
<tr>
<td><strong>Filter performance Test Agent</strong></td>
<td>NaCl</td>
<td>NaCl and paraffin oil</td>
<td>NaCl</td>
<td>NaCl</td>
<td>NaCl and paraffin oil</td>
<td>NaCl</td>
<td>NaCl and paraffin oil</td>
</tr>
<tr>
<td><strong>Flow rate</strong></td>
<td>85 L/min</td>
<td>95 L/min</td>
<td>85 L/min</td>
<td>95 L/min</td>
<td>95 L/min</td>
<td>85 L/min</td>
<td>85 L/min</td>
</tr>
<tr>
<td><strong>Total Inward leakage (TIL)(^1)</strong></td>
<td>N/A</td>
<td>≤ 8% leakage (arithmetic mean)</td>
<td>≤ 8% leakage (arithmetic mean)</td>
<td>≤ 8% leakage (arithmetic mean)</td>
<td>≤ 8% leakage (arithmetic mean)</td>
<td>Measured and reported in Users Guide</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Inhalation resistance (max. pressure drop)</strong></td>
<td>≤ 343 Pa (at 85 L/min)</td>
<td>≤ 70 Pa (at 30 L/min) ≤ 240 Pa (at 95 L/min) ≤ 500 Pa (clogging)</td>
<td>≤ 350 Pa (at 85 L/min)</td>
<td>≤ 70 Pa (at 30 L/min) ≤ 240 Pa (at 95 L/min)</td>
<td>≤ 70 Pa (at 30 L/min) ≤ 240 Pa (at 95 L/min)</td>
<td>≤ 245 Pa (at 85 L/min)</td>
<td>≤ 343 Pa (at 85 L/min)</td>
</tr>
<tr>
<td><strong>Exhalation resistance (max pressure drop)</strong></td>
<td>≤ 245 Pa (at 85 L/min)</td>
<td>≤ 300 Pa (at 160 L/min)</td>
<td>≤ 250 Pa (at 85 L/min)</td>
<td>≤ 120 Pa (at 85 L/min)</td>
<td>≤ 300 Pa (at 160 L/min)</td>
<td>≤ 70 Pa (w/valve) (at 40 L/min) ≤ 50 Pa (no valve) (at 40 L/min)</td>
<td>≤ 245 Pa (at 85 L/min)</td>
</tr>
<tr>
<td><strong>Exhalation valve leakage requirement</strong></td>
<td>Leak rate ≤ 30 mL/min at -245 Pa</td>
<td>N/A</td>
<td>Depressurization to 0 Pa ≥ 20 sec at -1800 Pa</td>
<td>Leak rate ≤ 30 mL/min at -250 Pa</td>
<td>Visual inspection after 300 L/min for 30 sec</td>
<td>Depressurization to 0 Pa ≥ 15 sec at -1470 Pa</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>CO2 clearance requirement</strong></td>
<td>N/A</td>
<td>≤ 1%</td>
<td>≤ 1%</td>
<td>≤ 1%</td>
<td>≤ 1%</td>
<td>≤ 1%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

\(^1\)Tested on human subjects performing a series of exercises
Verification of NIOSH-Approved N95 Claims

**Required Elements:**

1. Name of approval holder, manufacturer, or registered trademark
2. NIOSH in block letters or the NIOSH logo
3. TC Number (TC-84A-XXXX) (NIOSH Testing and Certification approval number)
4. Filter Designation (filter series (N/R/P) and filter efficiency level (95/99/100)
5. Model Number

*Lot number is recommended on the mask and required on the packaging.

**All manufacturers are required to have elements 1 – 5 above [REF: DHHS Letter to All Manufacturers dated 9/3/2008]

**Search the NIOSH Certified Equipment List:**

[https://wwwn.cdc.gov/niosh-cel/](https://wwwn.cdc.gov/niosh-cel/)

- Use the full TC number to search (84A-XXXX)
- If you do not have a TC number available, go to the Advanced Search Tab
  - Under Schedules, select 84A
  - Under Protections, select N95 under the particulate section
  - Under Manufacturer or Brand, select the appropriate name from the list.
    - If you don’t see the manufacturer’s name immediately, type in the first few letters and let the computer search for you as many companies use shortened names on their products, yet the full name is used during certification
Verification of AU/NZ-Approved P2 Claims

Search the SAI Global website:

- Fill out the search criteria with the information you have available.
- When you do not choose “Show Products” you end up with information about the company, its location, the license number, and the relevant SAI standards.

- Select the License Number to see the current status, expiration date, original date of certification, the SAI standards that they are certified to, and a link to their license certificate.

- Scroll down to the Standard of Interest

- Scroll further down to Product of Interest.

- Select the Product of Interest. The information provided includes:
  - Model ID
  - Facepiece or head covering type (1/2 facepiece-disposable
  - Filter or cartridge type/class (P2)
  - Facepiece/head-covering description
  - Model name
  - Size facepiece/head-covering
  - Facepiece/head-covering filtration type
  - Accessories or comments
  - Distributor(s)
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COVID-19 Weekly Updates
Email: covid19tf@iafc.org

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