Recommendations and Sample Procedures/Guidelines to Maintain Risk Mitigation of COVID-19 Transmission in EMS and Fire Agencies

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This document may be updated periodically following the release of new data, research, and/or other information relevant to COVID-19 risk mitigation practices in EMS and fire agencies, or at the request of the NIOSH or other organizations.

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Key Actions to Mitigate the Risk of COVID-19 Transmission Among EMS and Fire Personnel During the COVID-19 Pandemic

1. **Recommend vaccination for all EMS and fire personnel including administrative and support staff.**

2. **Recommend screening for symptoms of COVID-19 before each shift.**

3. **Recommend wearing face coverings throughout the workplace, including in the station, apparatus, and vehicles.**

4. **Recommend optimizing physical distancing and disinfection throughout the workplace, including in the station, apparatus, and vehicles.**

5. **Recommend use of appropriate personal protective equipment (PPE) and disinfection procedures in healthcare and congregate settings.**

There is no '*one-size-fits-all*' approach to implement measures that mitigate COVID-19 transmission. Sample procedures and guidelines are provided that can facilitate implementation of current CDC recommendations at EMS and Fire agencies and may be tailored to address local needs.

Face coverings are defined in this guidebook as a surgical facemask or cloth face covering.

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Executive Summary

Coronavirus disease 2019 (COVID-19) is caused by the virus SARS-CoV-2. Symptoms may include shortness of breath, cough, fever, chills, muscle pain, nausea, vomiting, loss of taste and smell and other symptoms.[1] The virus is spread most often among people in close proximity (less than 6 feet) by respiratory droplets and sometimes by airborne transmission of small droplets or particles. COVID-19 spreads less commonly through contact with contaminated surfaces. The virus may be spread by infected people with or without symptoms.[2] For the latest information on COVID-19 refer to the CDC website.

Over the course of the COVID-19 pandemic, EMS and fire personnel received many recommendations to mitigate the risk of exposure to SARS-CoV-2 virus.[3] Recommendations have primarily addressed the use of personal protective equipment (PPE) when in contact with individuals with confirmed or suspected COVID-19. Recommendations vary over time due to new knowledge about virus transmission, changes in prevalence within communities, and the availability of vaccinations. Advice regarding workforce protection outside of the patient-worker interaction, such as at EMS and fire stations, or in apparatus and vehicles is lacking.[4] Furthermore, the vaccination of EMS and fire personnel and recommendations for fully vaccinated people in non-healthcare settings[5] may provide a false sense of security and influence public safety workers to prematurely stop interventions that prevent the spread of COVID-19, such as wearing face coverings.

Implementation or maintenance of standard operating procedures (SOPs) or standard operating guidelines (SOGs) that mitigate the risk of COVID-19 transmission during the ongoing pandemic remain very important following EMS and fire personnel vaccination for several reasons:

- Up to half of EMS and fire personnel are unsure about or have reported low acceptability for receiving the vaccine,[6] contributing to risk of transmission between coworkers.
- Data are not available regarding the ability of fully vaccinated individuals to carry or transmit the SARS-CoV-2 virus.
- Even when widely accepted and delivered, the efficacy of COVID-19 vaccines against new variants (mutations) of the virus might be reduced.
- Risks to vaccinated personnel might vary with the prevalence and composition of variants (mutations) in the community. SOPs/SOGs must anticipate periodic surges in infections.

Interim recommendations from the CDC have relaxed mitigation procedures (e.g., face coverings) by vaccinated people outside of healthcare settings under certain conditions.[5] Recommendations for EMS and fire personnel have not changed. Maintenance of clear EMS and fire agency SOPs/SOGs is critical to the sustained response of these personnel during the COVID-19 pandemic. This guidebook provides recommendations and sample SOPS/SOGs that can be adapted and implemented to sustain risk mitigation practices in EMS and fire agencies during the COVID-19 pandemic.

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Recommendation #1

Recommend vaccination for all EMS and fire personnel including administrative and support staff.

Background

Vaccination against the SARS-CoV-2 virus is safe and effective.[7,8] Universal vaccination among EMS and fire personnel and their administrative and support staff will reduce infections, protect the public, maintain operations, and protect family members of EMS and fire personnel.[9] Some people may be hesitant to receive vaccines based on misinformation, lack of trust in the medical system, concerns for safety, or fear of consequences related to new vaccines.

Key Actions

- Encourage universal vaccination among EMS and fire personnel and their administrative and support staff. Strategies may include:
    - Providing financial incentives for vaccination.
    - Holding free vaccination clinics in the workplace, such as at EMS or fire stations, with scheduling convenient to personnel work periods.
    - Establishing flexible leave policies to allow personnel with post-vaccination symptoms to take time off if needed.
- Maintain records of vaccination to ensure a safe working environment and advise EMS and fire personnel regarding the potential need for revaccination or boosters.
- Establish frequent communications to address concerns about vaccine access, safety and equity.
- Partner with healthcare providers to reassure EMS and fire personnel of vaccine safety and address concerns about vaccine hesitancy.

Additional Resources

- CDC: Myths and Facts about the COVID-19 Vaccine
- CDC: Frequently asked questions about the vaccine
- CDC: Benefits of getting the COVID-19 vaccine

Sample SOP/SOG #1

TITLE: **Vaccination for all EMS and fire personnel including administrative and support staff**

PURPOSE

EMS and fire personnel are at risk of being infected with and transmitting SARS-CoV-2 in any workplace setting. Transmission may impair the ability of EMS and fire agency to provide service. Vaccination of personnel is mission critical and should be supported. Vaccine hesitancy must be addressed to reduce the risk of COVID-19 transmission to persons. Use of peer support and local subject matter experts to help address fears and concerns among personnel is encouraged.

CONTENT

1. All personnel will be provided the opportunity to receive a COVID-19 vaccine.
2. Personnel who are not yet vaccinated can contact [_____] regarding access to the COVID-19 vaccine.
3. Maintain records of vaccination to ensure a safe working environment and advise EMS and fire personnel regarding the potential need for revaccination or boosters.
4. The agency supports partnerships with peer support and healthcare providers to address questions or concerns related to vaccine safety and address concerns about vaccine hesitancy.

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Recommendation #2

Recommend screening for symptoms of COVID-19 before each shift.

Background

Though the SARS-CoV-2 virus may be transmitted by individuals who are asymptomatic, symptom screening is an important strategy to identify those who could have COVID-19 and could be a source of transmission to coworkers or other individuals. Due to community transmission of SARS-CoV-2, infection of personnel may occur at any time and exposures in the workplace represent an important risk to maintaining an active and healthy workforce. Although COVID-19 infection among vaccinated personnel is less likely, vaccinated persons who test positive should still stay home to prevent spreading other illnesses to coworkers.

Key Actions

- Screen all personnel for symptoms of COVID-19 before each shift.
- Refer to specific guidance from the [agency] occupational health provider on the appropriate period of restriction from work before returning to duty. Recommended criteria for return to work for healthcare personnel with COVID-19 are provided on the CDC website.
- Any employee who exhibits symptoms during a shift should be advised to contact their supervisor and/or the [agency] occupational health provider. Appropriate treatment and quarantine period should be determined in accordance with CDC guidelines. The worker should self-isolate as per the [agency's] SOP/SOG.

Additional Resources

- CDC: Interim Recommendations for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points/Emergency Communication Centers (PSAP/ECCs) in the United States During the Coronavirus Disease (COVID-19) Pandemic
- CDC: Criteria for Return to Work for Healthcare Personnel with SARS-CoV-2 Infection

Sample SOP/SOG #2

TITLE: Screening for Symptoms of COVID-19

PURPOSE

EMS and fire personnel are at risk of transmitting SARS-CoV-2 in any workplace setting. Transmission of the virus may occur when the individual is asymptomatic or minimally symptomatic, minor symptoms that can signal the onset of COVID-19 may occur at any time. Workplace exposures to COVID-19 or other infections represent an important risk to personnel safety and maintenance of a healthy and active workforce making mitigation practices important to the continued operations of the agency. This SOP/SOG summarizes key actions to screen individuals in the workplace for symptoms of SARS-CoV-2 infection to mitigate risk of virus transmission.

CONTENT

1. All personnel must perform a fit for duty assessment at the beginning of a shift or work period. Additionally, any change in this assessment occurring during a shift must be addressed as per this SOP/SOG.
2. All personnel should assess themselves and their partner(s) for:
    a. Subjective fever, chills, or measured temperature ≥100.0°F or ≥37.8°C.
    b. New onset of respiratory symptoms such as cough or shortness of breath without obvious underlying cause (e.g., due to pre-existing condition such as allergies or chronic respiratory disease).
    c. Excessive fatigue.
    d. Other signs or symptoms such as muscle pain, nausea, vomiting, loss of taste, or loss of smell.
3. If any of the above findings are present:
    a. Contact the worker's supervisor to report the presence of a positive screen.
    b. If engaged in patient care or other operational activities, safely transition those activities to other appropriate personnel.
    c. Ensure the worker with positive screening symptoms is wearing a face covering.
    d. The worker should self-isolate as per the [agency's] SOP/SOG.
4. Return to work will be determined as per the [agency's] return to duty SOP/SOG.

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Recommendation #3

Recommend wearing face coverings throughout the workplace, including in the station, apparatus, and vehicles.

Background

Use of a face covering is an important action to reduce transmission of the SARS-CoV-2 virus. Like other healthcare personnel, EMS and fire personnel are at substantial risk of exposure to COVID-19 from coworkers that are asymptomatic or minimally symptomatic during infection and continue to work.[10] Using face coverings in non-patient care settings when coworkers are in proximity is an important way to mitigate the risk of transmission of COVID-19. Cloth face coverings that are effective in reducing the risk of COVID-19 infection must have two or more layers of breathable, washable fabric, completely cover the nose and mouth, fit snuggle against the face, and have a nose wire to prevent leaking out of the top. In specifying the type of face covering that should be worn in non-patient care settings, it is considered that surgical facemasks or cloth face coverings provide similar and reasonable levels of protection.[11] Face coverings protect both by preventing droplet ejection from the carrier and to a lesser extent by reducing the wearer's exposure to environmental droplets and liquid aerosols.[12] Vaccination reduces but does not completely eliminate the risk of viral transmission in the workplace. Challenges to implementing a masking SOP/SOG at public safety facilities include the need to communicate clearly, eat, sleep, maintain personal hygiene and be in close proximity to other personnel for prolonged periods of time.

Key Actions

- All EMS and fire personnel should wear a face covering while in a station, apparatus, vehicle, or other work location where they may be near coworkers or other individuals.
- A SOP/SOG should address individual details specific to the agency, including how personnel should best address eating, sleeping, and personal hygiene through the optimal use of the work locations available in each facility.

Additional Resources

- CDC: Interim Recommendations for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points/Emergency Communication Centers (PSAP/ECCs) in the United States During the Coronavirus Disease (COVID-19) Pandemic

Sample SOP/SOG #3

TITLE: Face Coverings in the Workplace

PURPOSE

EMS and fire personnel are at risk of transmission of COVID-19 from coworkers in any workplace setting. Transmission of the virus that causes COVID-19 is most likely to occur from exposure to respiratory droplets released during actions such as breathing, coughing and talking. This is especially true when individuals are in close proximity (<6 feet) but may occur in enclosed environments even at greater distances based on the circulation of small particles suspended in air. Workplace exposures to COVID-19 represent an important risk to personnel safety and maintenance of a healthy and active workforce making mitigation practices important to the continued operations of the agency. This SOP/SOG addresses the key action of using face coverings to mitigate risk of virus transmission throughout the workplace, including in the station, apparatus, and vehicles.

CONTENT

1. All personnel must wear a face covering that covers the mouth and nose while in a station, apparatus, vehicle, or other work location where they may be in close proximity to coworkers or other individuals.
2. This SOP/SOG applies to all workplace settings, including those outside of where encounters with individuals confirmed or suspected to have COVID-19 are anticipated. For example, the station or in apparatus or other vehicles with no patient on board.
3. Face coverings may be removed when eating or sleeping at the following locations when maintaining appropriate physical distancing and maximizing air circulation. Whenever possible, use of a face covering should be otherwise maintained at these locations.
    a. [LOCATION]
    b. [LOCATION]
4. Individuals with any concern about the ability to maintain face coverings in workplace settings must contact their supervisor prior to initiating a work shift.

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Recommendation #4

Recommend optimizing physical distancing and disinfection throughout the workplace, including in the station, apparatus, and vehicles.

Background

The SARS-CoV-2 virus is transmitted primarily when individuals are within 6 feet of each other.[13] Infection is transmitted by respiratory droplets and sometimes through airborne transmission by small airborne droplets or particles. Less commonly, respiratory droplets can contaminate surfaces in the workplace and act as a source of transmission of the virus. Physical distancing in the workplace should be maintained even among vaccinated individuals.

Key Actions

- EMS and fire personnel should maintain physical distance of at least 6 feet whenever possible to decrease the likelihood of person-to-person spread of the virus.
- The optimal location and procedures for eating, sleeping, or wherever masking cannot be maintained should be identified.
- Surfaces in the workplace and equipment should be routinely cleaned and disinfected using water, cleaners, and disinfectants approved by the Environmental Protection Agency (EPA).
- Refer to the EPA website (linked below) for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.

Additional Resources

- CDC: Interim Recommendations for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points/Emergency Communication Centers (PSAP/ECCs) in the United States During the Coronavirus Disease (COVID-19) Pandemic
- EPA: Disinfectants for Coronavirus (COVID-19)

Sample SOP/SOG#4

TITLE: Physical Distancing and Disinfection in the Workplace

PURPOSE

EMS and fire personnel are at risk of transmission of COVID-19 from individuals confirmed or suspected to have COVID-19, especially in close proximity (<6 feet), or less commonly through touching contaminated surfaces. Performance of medical procedures and other close interactions in healthcare and congregate settings put individuals at additional risk of virus transmission. Workplace exposures to COVID-19 represent an important risk to personnel safety and the maintenance of a healthy and active workforce making mitigation practices important to the continued operations of the agency. This SOP/SOG summarizes key actions to mitigate risk of virus transmission outside healthcare and congregate settings, such as in the station, apparatus, and vehicles.

CONTENT

1. All personnel should maintain ≥6 feet of distance from each other when in any work location where this distance can be maintained. Distance should be maintained even if vaccinated and when using face coverings to further prevent the transmission of respiratory droplets.
2. When eating or sleeping at the following locations, ensure appropriate physical distance is maintained. Preferably, individuals should be alone in the room at any of these locations (such as eating in shifts) or at a minimum should be at least 6 feet apart while maximizing air circulation that minimizes the potential of viral spread to other individuals.
    a. [LOCATION]
    b. [LOCATION]
3. All commonly touched surfaces and shared equipment at the station, apparatus, vehicle, or other work locations must be cleaned at least daily and more often based on frequency of contact.
4. Surfaces should be routinely cleaned and disinfected through standard cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces) then application of an EPA-registered, hospital-grade disinfectant. Particular attention for disinfection should be paid to commonly touched surfaces including desks, computers, chairs, tables, stair rails, doorknobs, and other work surfaces.
5. In addition to disinfection after use, routine surface and equipment decontamination is the responsibility of [_____].

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Recommendation #5

Recommend use of appropriate personal protective equipment (PPE) and disinfection procedures in healthcare and congregate settings.

Background: SARS-CoV-2, the virus that causes the COVID-19 illness is transmitted by respiratory droplets and sometimes through airborne transmission by small airborne droplets or particles. Less commonly, respiratory droplets can contaminate surfaces in the workplace and act as a source of transmission of the virus. Appropriate use of infection prevention measures for EMS and fire personnel includes vaccination of personnel, the use of screening for COVID-19 symptoms, universal source control measures, physical distancing when possible, personal protective equipment (PPE) and disinfection procedures.[14] This approach minimizes the risk to EMS and fire personnel, and other individuals. Challenges to implementation of these strategies include the need to directly access individuals for life saving interventions, time required to don PPE, and operational limitations of wearing appropriate PPE including impaired communication, increased risk of heat injuries, and discomfort associated with the PPE ensemble.

Description

- Persons seeking medical help and other individuals in proximity to EMS and fire personnel should furnish or be offered a face covering to cover the person's nose and mouth.
- If a patient requires a non-invasive or invasive ventilation system, bacterial/viral filters should be used to cover exhalation ports to reduce the risk of transmission.
- If COVID-19 infection is known or suspected or if providers are operating in an area with moderate community spread, then providers should use respirators providing at least as much protection as a fitted N95 or greater in addition to barrier protection with gloves, gown, and protective eyewear with or without a face shield.
- Disinfection of PPE and equipment should follow CDC guidelines and the donning and doffing procedure should be practiced and ideally monitored by a coworker to minimize contamination.

Additional Resources

- CDC: Using Personal Protective Equipment (PPE)
- CDC: Interim Recommendations for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points/Emergency Communication Centers (PSAP/ECCs) in the United States During the Coronavirus Disease (COVID-19) Pandemic

Sample SOP/SOG #5

TITLE: Use of Personal Protective Equipment (PPE) and Appropriate Disinfection Procedures in Healthcare and Congregate Settings

PURPOSE

EMS and fire personnel are at risk of transmission of SARS-CoV-2 from individuals confirmed or suspected to have COVID-19, especially in close proximity (<6 feet), or through touching contaminated surfaces. Performance of medical procedures and other close interactions in healthcare and congregate settings put individuals at additional risk of virus transmission. Workplace exposures to SARS-CoV-2 represent an important risk to personnel safety and maintenance of a healthy and active workforce making mitigation practices important to the continued operations of the agency. This SOP/SOG summarizes key actions to mitigate risk of virus transmission in healthcare and congregate settings.

CONTENT

1. All personnel must at a minimum wear a facemask while engaging in any patient care activities or in congregate settings.
2. Screen all individuals for signs and symptoms of COVID-19 to assess risk.
3. Maintain physical distance whenever possible and minimize the number of personnel exposed to the individual with confirmed or suspected infection.
4. All individuals in proximity to EMS and fire personnel should wear or be asked to wear a face covering for source control unless they are unable to due to their medical condition. Facemasks may be placed over oxygen delivery devices to reduce spread of viral particles.
5. When there is moderate community spread, suspect COVID-19 infection in all patient interactions.
6. For patient interactions where COVID-19 is suspected or confirmed, personnel must wear:
    a. N95 (or higher) respirator instead of a face mask when performing or present for an aerosol-generating procedure, or if the patient is unable to maintain source control through use of a face covering.
    b. Disposable examination gloves.
    c. Eye protection, such as face shield or goggles, unless wearing a full-face respirator.
    d. Gown or coveralls.
7. If the PPE becomes grossly contaminated or compromised (e.g., torn), doff and replace the PPE.
8. Following use, the following PPE should be processed for cleaning and reuse:
    a. [ITEM]
    b. [ITEM]
9. Following use, the following PPE should be discarded in an appropriate container:
    a. [ITEM]
    b. [ITEM]
10. When transporting individuals where COVID-19 is suspected or confirmed, limit the number of personnel in the patient compartment to minimize possible exposures.

11. When donning and doffing PPE, follow the CDC or local guidelines, as well as manufacturer's user instructions, and have a coworker observe the procedure to reduce procedural errors that may lead to contamination. Contaminated PPE should be disposed of or stored and transported in a manner that avoids cross-contamination.
12. Upon completion of the response, use EPA-registered hospital grade disinfectant to disinfect non-porous surfaces of apparatus, vehicles, gurneys, clipboards, radios, and other frequently touched surfaces or equipment.
13. Launder reusable personal protective clothing (e.g., uniforms) or other porous materials according to the manufacturer's recommendations if there is concern for contamination.
14. Use alcohol-based hand sanitizers with greater than 60% ethanol or 70% isopropanol, or wash hands with soap and water for at least 20 seconds when soap and water are available. Avoid touching your eyes, nose, and mouth.

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