

Update on 2019-Novel Coronavirus (COVID-19)

Adopted March 16, 2020

Links updated March 28, 2020

This directive serves as an update to one issued the March 7, 2020 involving guidance for emergency dispatch and EMS care for COVID-19. This guidance for best practices when caring of persons with potential infection with the COVID-19 is based on information from Public Health, the Washington State Department of Health (DOH), the US Centers for Disease Control and Prevention (CDC), as well as our regional experience. This overview provides a summary. Additional information about screening, transport, personal protective equipment (PPE), safe practices, documentation, decontamination, quarantine and isolation is included via the embedded links. King County EMS continues to be in regular communication with Public Health, Washington State DOH, and the CDC.

Executive Summary. Each of these items is reviewed in detail lower down and in the linked documents.

1. **Dispatch Criteria Updates** – The update provides PPE guidance to help inform EMS responders of potential COVID-19 risks. *Going forward, all calls will be screened to determine if anyone in the location has symptoms related to COVID-19.* Importantly, dispatch inquiry cannot provide a perfect screen so EMS on-scene need to continue to use judgment to achieve scene safety.
2. **EMS Actions** – These updates incorporate developing information with the goal to achieve best practices for patient care and EMS safety.
 - A. PPE criteria: The criteria for applying PPE are expanded to include any patient or location where there is concern for COVID-19, as determined by infectious symptoms such as fever or respiratory symptoms. Information about travel history and known COVID-19 exposure are also useful.
 - B. EMS patient screening: EMS should employ a scout strategy whenever feasible whereby initial assessment is provided by a reduced crew of 1 or 2 providers to assess potential for COVID-19 risk in the patient or at the location (fever or respiratory illness, travel, known exposure). This assessment should be performed whenever possible from a distance of > 6 feet using PPE. If COVID-19 risk is confirmed, then the complement of EMS providers should don PPE and follow best practices. If screening is negative, the crew can stand down with regard to PPE.
 - C. Time-critical patients: In the setting of cardiac arrest, there is not time or opportunity to accurately gauge risk. EMS providers often provide extended care with substantial and invasive contact. As a consequence, EMS providers need to don PPE to provide cardiac arrest resuscitation. Whenever possible, EMS should attempt to don PPE while enroute with priority of N-95, eyewear, and gloves so they are ready to provide care as soon as possible after scene arrival.
 - D. Advanced airway management: Advanced airway management can produce aerosolized (airborne) patient secretions and increase the risk of COVID-19 transmission. As a consequence, paramedics need to don PPE whenever undertaking advanced airway management. Paramedics need to exercise judgment. If there is a high suspicion of COVID-19, the safest approach is a supraglottic airway and the paramedic should use an i-gel. For other patients, paramedics may perform endotracheal intubation per standard clinical indication. If not already in place, the whole EMS team should apply PPE in preparation of the airway.
 - E. Preferential use of MDI versus nebulizer treatment: MDIs have similar effectiveness compared to nebulizer therapy for many patients with exacerbation of reactive airway disease (i.e. COPD and asthma), AND MDIs produce a lower level of aerosolization than nebulizer, making MDIs potentially as effective and safer in many patients requiring bronchodilation. As therapy becomes available, ALS agencies should use MDI therapy with albuterol and atrovent as primary treatment and reserve nebulizer therapy for circumstances where the patient cannot use the MDI or where MDI is not effective. Paramedics may also consider other alternative therapies for reactive airway disease to include SQ low dose epinephrine or IV magnesium in order to limit use of nebulized therapy.

- F. Hospital Alert: Please notify patients early on from the field location that you are transporting a patient to the hospital with possible COVID-19. For stable patients, EMS should contact hospital nursing while holding the patient in the EMS vehicle in order to facilitate safe transition into the hospital.

The complete set of EMS Actions is provided on subsequent pages in the EMS Actions section. Refer to [EMS suspects a case of COVID-19](#).

3. ESO Documentation Guidelines for COVID-19 Responses

- A. Please code “COVID-19” as an ESO secondary impression whenever there is suspected COVID-19.
- B. ESO now has a PPE tab that provides documentation of PPE. Please complete this tab for all cases. We appreciate that this is not ideal structure (all cases) but this is the limitation of ESO currently. Beginning March 17, this tab will become mandatory for the record to be closed.
- C. Please continue to document PPE use (“FULL PPE” or “MEGG”) in the narrative whenever applicable, understanding that the tab completion will be coming online.
- D. Please complete the “Outbreak” tab in ESO for all suspected COVID cases. The tab will become mandatory on March 17. Please appreciate because of the ESO structure, the tab will be required for all calls. However if the “Outbreak” tab is not relevant, then all that is required is to click the “UTO” button (unable to obtain) and check the appropriate selection (patient refused, not indicated, other reason). If the case *is* relevant, please complete the remainder of the tab.
- E. Please document the full crew list as an accurate crew accounting is important if there is an exposure.

4. [After Care Instructions](#)

Many patients with COVID-19 will not require hospital care. Some patients you evaluate with suspected COVID-19 may remain at home. We have printed guidance for patients who remain at home who 1) may have a potential COVID exposure or 2) may have confirmed or suspected COVID illness (**updated March 17, 2020**).

5. [Decontamination](#) – Best practices are available in the Station Cleaning Checklist and Apparatus Cleaning Checklist (**updated March 17, 2020**), as well as from the CDC.

6. Health Officer – The EMS agency Health Officer is a critical role. This person(s) have responsibilities for monitoring and informing employee health. Specifically there is more guidance for how to monitor and manage employees who have been exposed.

- A. Employee wellness screening: The best treatment for COVID-19 is prevention. We need a healthy workforce. Best practices advised by the CDC, DOH, and PH, EMS agencies should institute a program to safely screen employees for acute illness as they arrive to work and once additionally around the midpoint during a 24 hour period.
- B. Guidance for EMS personnel potentially exposed to COVID-19: The Health Officer should contact Dr. Rea and King County EMS (Tracie Jacinto) if they have concerns about potential exposure and/or need to quarantine an employee.
- C. Symptom Monitoring and Reporting Instructions:
 - Quarantine and Isolation Guidelines
 - Return to Work Guidelines

7. KC EMS Surveillance

- A. Link between confirmed COVID patients and EMS encounters: KC EMS is performing active ESO surveillance to link EMS calls with patients who test positive for COVID-19. This information is reviewed and provided to the EMS agency's Health Officer on a daily basis.
- B. Community surveillance of geographic hotspots: KCEMS is monitoring high-risk locations. If cases are identified from particular facility type (i.e. skilled nursing facilities) or >1 case is identified from a given address, these locations are flagged by Dispatch via premise information as high-risk.

8. Training

- A. Personal Protective Equipment: Please review best practices of PPE that is posted to EMS Online. Appropriate donning and doffing of PPE is essential.
- B. Ventilation: Ventilation (bag-valve ventilation, advanced airway management) can produce aerosol and increase the risk of COVID transmission. As a consequence, EMS should use a HEPA (viral/bacterial) filter whenever feasible when providing ventilation. Please review the [airway management visuals](#) that demonstrate correct application of the HEPA filter into the airway circuit.

DETAILED DIRECTIVES

I. Dispatch Criteria Updates - Expanded Criteria

Emergency Medical Dispatch Centers in King County have activated Infectious Disease screening. The update now has dispatch inquiring on all calls about whether the patient or anyone else has fever or respiratory symptoms. Dispatch will recommend "PPE advised" for all such cases. (Dispatch will no longer stratify "high risk" given that there is now community level transmission.) Dispatch will also continue to provide notification involving nursing facilities where there is confirmed COVID-19. EMS providers should treat all such locations as high risk. (The text box on the following page describes the call-receiver approach.)

Dispatch Strategy for COVID-19 Screening

1. Determine Symptoms:
 - Does the patient have a fever?
 - Does the patient have any respiratory symptoms – i.e., cough, shortness of breath, or difficulty breathing?
2. Has that facility been designated by premise information as a known COVID-19 location. What is the address of the facility?
3. For all calls, determine whether anyone at the location or household poses a risk.

Advise responders that "PPE Advised" for the following:

If the patient or anyone at the location has fever or respiratory symptoms. Advise the symptomatic persons to move to another room.

If the patient is residing in a high-risk location based on premise information where there is confirmed COVID case(s). Example is the SNF in Kirkland.

For any case at a skilled nursing facility, adult family home, and assisted living without confirmed COVID-19 cases (regardless of call type), EMS providers should be aware of a heightened need for PPE. Communications centers provide address and location names to help identify these facilities.

Be alert for multiple patients with the same complaints, signs, or symptoms

2. EMS Actions – EMS should screen the patient by assessing information about:

- Fever
- Respiratory symptoms (i.e. cough, shortness of breath, difficulty breathing)
- COVID-19 exposure risk
- Travel history
- Residence location (skilled nursing facility, adult family home, assisted living)

For all non-critical calls, send a scout EMS provider (1-2) in full PPE to determine risk in alignment with the [Scout Model Guideline](#) (updated March 25, 2020) and advise the rest of the crew regarding need for PPE. If possible, perform initial information gathering from > 6 feet away. In a time-critical case where there is suspicion for COVID-19, please don PPE in advance to the extent feasible.

REVISED CRITERIA: The expanded criteria for full COVID-19 PPE are patients with febrile or respiratory illness, cardiac arrest, any patient requiring an advanced airway, or a patient residing at a chronic care facility. The expanded criteria no longer require high-risk travel or known COVID exposure given the appreciation that community transmission is occurring in our region. (Per national guidelines, known contact with COVID-19 patient or travel from a high-risk location continues to be useful information.)

If EMS suspects COVID-19, they should:

1	Don full PPE (fitted N-95 mask, eye gear, fluid resistant gown, gloves). Full PPE protects against COVID-19. Place a surgical mask on the patient. Limit the number of personnel who contact the patient. The patient should be directed to a separate area, if possible, with at least 6 feet separation from other persons whenever possible.
2	Record details of risk profile to include exposure to confirmed COVID-19 patient, living arrangements (i.e., SNF, nursing home, assisted living), and any high-risk travel history. Determine course of illness – specifically onset of symptoms, onset of fever, and highest measured temperature (if available).
3A	<p><i>If the patient is acutely ill and requires urgent medical care</i>, provide patient-specific care incorporating the goal to limit airborne droplet spread. Whenever possible, limit the use of treatments that may generate aerosol such as nebulizer or high-flow nasal cannula oxygen (>6 liters). You may provide airway treatment such as airway medication therapies or bag valve mask ventilation as clinically indicated. Ventilation should be provided using a bacterial/viral filter whenever possible. Refer to the airway management visuals for more information.</p> <p>Advanced airway: If an advanced airway is required, paramedic good judgment and caution is essential. If there is a high suspicion of COVID-19, the safest approach is a supraglottic airway and the paramedic should use an i-gel. For other patients, paramedics may perform endotracheal intubation per standard clinical indication. If not already in place, the whole EMS team should apply PPE in preparation of the airway.</p> <p>Nebulizer therapy: Whenever possible, paramedics should use MDI therapy with albuterol and atrovent as primary treatment and reserve nebulizer therapy for circumstances where the patient cannot use the MDI or where MDI is not effective. Paramedics may also consider other alternative therapies for reactive airway disease to include SQ low dose epinephrine or IV magnesium in order to limit use of nebulized therapy.</p> <p>All hospitals are prepared to receive patients. EMS should alert the hospital of the concern about COVID-19 infection. Upon hospital arrival – if patient status allows, alert the ED that you have arrived before bringing the patient into the ED so that the patient can be efficiently directed upon hospital</p>

	entry. The hospital will provide further assessment and is responsible for reporting the patient to Public Health.
3B	<i>If the patient is stable and does not require urgent care</i> , please provide aftercare instructions that include best practices for isolation and self-monitoring (See aftercare instructions for symptomatic persons and possible exposures) (Updated March 17, 2020). Criteria for staying at home include stable vital signs, oxygen saturation $\geq 94\%$, normal level of consciousness, age < 60 in a patient who is generally healthy (i.e. without heart or lung disease, diabetes, dialysis, or immune compromise). If there are questions about whether the patient may stay at home, please contact Dr. Rea directly 206-255-5513.
4	Engage in best practices for Transport Guidelines (updated March 25, 2020) and Apparatus Cleaning Checklist (updated March 17, 2020). See also the CDC's Interim Guidance for EMS Systems for Cleaning EMS Transport Vehicles after Transporting a PUI or Patient with Confirmed COVID-19 . (Updated March 10, 2020)
5	ESO now provides documentation for COVID-19 under the secondary impression. Code "COVID-19" as an ESO secondary impression whenever there is suspected COVID-19. Continue to document PPE use ("FULL PPE" or "MEGG") in the narrative. ESO now has a "PPE" tab. Please complete this tab for all cases. ESO now has an "Outbreak" tab. Please complete the "Outbreak" tab for all suspected COVID cases. Document the full crew list as an accurate crew accounting is important if there is an exposure.

3. ESO Documentation Guidelines for COVID-19 Responses

- A. Please select "COVID-19" as an ESO secondary impression whenever there is suspected COVID-19 case.
- B. ESO now has a PPE tab that provides documentation of PPE. Please complete this tab for all cases. We appreciate that this is not ideal structure (all cases) but this is the limitation of ESO currently. Beginning the week of March 17, this tab will become mandatory for the record to be closed.
- C. Please continue to document PPE use ("FULL PPE" or "MEGG") in the narrative whenever applicable, understanding that the tab completion will be coming online.
- D. Please complete the "Outbreak" tab is ESO for all suspected COVID cases. The tab will become mandatory for March 17. Please appreciate because the ESO structure, the tab will be required for all calls. However, if the "Outbreak" tab is not relevant, then all that is required is to click the "UTO" button (unable to obtain) and check the appropriate selection (patient refused, not indicated, other reason). If the case is relevant, please complete the remainder of the tab
- E. Please document the full crew list as an accurate crew accounting is important if there is an exposure. For more information, refer to the **ESO Documentation Guide** for COVID19.

4. AfterCare Instructions

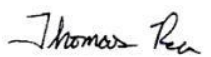
Many patients with COVID-19 will not require hospital care. Some patients you evaluate with suspected COVID-19 may remain at home. We have printed guidance for patients who remain at home who may have a COVID exposure or may have suspected/proven COVID illness. Please refer to **Aftercare Instructions for Symptomatic Person** and in case of **Possible Exposure**, as well as the **Stay at Home** trifold (updated March 17, 2020).

5. **Decontamination** – Best practices for decontamination are included in the **Apparatus Cleaning Checklist** and **Station Cleaning Checklist** (updated March 17, 2020). Also see the **CDC's Interim Guidance for EMS Systems**

[for Cleaning EMS Transport Vehicles after Transporting a PUI or Patient with Confirmed COVID-19.](#)

(Updated March 10, 2020)

- 6. Health Officer** – The EMS agency Health Officer is a critical role. This person(s) has responsibilities for monitoring and informing employee health. Specifically there is more guidance for how to monitor and manage employees who have been exposed.
- A. Employee wellness screening: The best treatment for COVID-19 is prevention. We need a healthy workforce. Best practices advised by the CDC, DOH, and PH, EMS agencies should institute a program to safely screen employees for acute illness as they arrive to work and once additionally around the midpoint during a 24-hour period. Please see the [Self-Screening Guidelines](#) and [Social Distancing Guidelines on Shift](#) (updated March 17, 2020).
 - B. Guidance for EMS personnel potentially exposed to COVID-19: The Health Officer should contact Dr. Rea and King County EMS (Tracie Jacinto) if they have concerns about potential exposure and/or need to quarantine an employee. Some cases are straightforward but others may require discussion and review with the employee(s).
 - C. Symptom Monitoring and Reporting Instructions:
 - i. Quarantine and Isolation Guideline: Current recommendations for healthcare workers with known medium or high-risk exposure is to *consider* quarantine for 14 days. Each case should be reviewed and discussed with Dr. Rea and the Health Officer. Once in quarantine or isolation, the employee should report their symptoms to the agency health officer on a daily basis. Please refer to the [Symptom Monitoring Tracker](#).
 - ii. [Return to Work guidelines](#) for confirmed exposure and no documented exposure (updated March 28, 2020).
- 7. KC EMS Surveillance**
- A. Link between confirmed COVID patients and EMS encounters: KC EMS is performing active ESO surveillance to link EMS calls with patients who test positive for COVID-19. This information is reviewed and provided to the EMS agency's Health Officer on a daily basis.
 - B. Community surveillance of geographic hotspots: KCEMS is monitoring high-risk locations. If cases are identified from particular facility type (i.e. skilled nursing facilities) or >1 case is identified from a given address, these locations are flagged by Dispatch via premise information as high-risk.
- 8. Training**
- A. Personal Protective Equipment: Please review best practices of PPE that is posted to [EMS Online](#). Appropriate donning and doffing of PPE is essential.
 - B. Infectious Disease CBT Module: All EMS personnel should complete a refresher of standard PPE procedures and infection control using the EMS Online "EMT – Ongoing Training 2020 – Infectious Disease" course.
 - C. Ventilation: Ventilation (bag-valve ventilation, advanced airway management) can produce aerosol and increase the risk of COVID transmission. As a consequence, EMS should use a HEPA (viral/bacterial) filter whenever feasible when providing ventilation. Please review the [airway management visuals](#) that demonstrates correct application of the HEPA filter into the airway circuit.



Thomas Rea, MD
Medical Program Director, King County EMS