



RESUSCITATION ACADEMY

COVID-19

10 STEPS

to Help Patients

While Staying Safe

FROM THE FACULTY OF
THE RESUSCITATION ACADEMY

APRIL 3, 2020

This is a work in progress and will be updated as new, relevant content becomes available.

10 Steps for EMS managing the COVID-19 pandemic

The Resuscitation Academy is dedicated to help you be the best cardiac arrest resuscitator you can be. We are equally dedicated to help you be as safe as you can be in this difficult time of the COVID-19 pandemic. Below we share 10 steps to help you and your EMS agency navigate safely through this pandemic while doing all that you can to help the patient.

We understand this is a rapidly evolving situation and that some EMS agencies are at system overload. We also appreciate that not all steps will be applicable to all EMS agencies. We have tried to share practices that have worked for us in Seattle Medic One and King County EMS. Please send us updates and training material you think may be of assistance to your colleagues. We welcome feedback and comments—send them to Ann Doll at ann@resuscitationacademy.org.

Questions: Feel free to ask questions about any aspect of COVID-19.

<https://www.surveymonkey.com/r/asktheradoc>

All current Seattle-King County protocols and resources can be found on the EMS Online website: <https://www.emsonline.net/Announcements/Infectious-Disease-Safety-Procedures.aspx>

10 STEPS

for EMS managing the COVID-19 pandemic:

- Step 1.** Data to guide best practices
- Step 2.** Dispatch screening
- Step 3.** PPE including donning and doffing
- Step 4.** Scout the patient
- Step 5.** Patient care modifications
- Step 6.** Patient disposition
- Step 7.** Decontamination of equipment
- Step 8.** Post-event review
- Step 9.** Pre/mid/post-shift surveillance check
- Step 10.** Leadership

Resuscitation or a global pandemic—the characteristics of high-performing EMS systems don't change. Quality improvement, leadership, training, and creating a culture of excellence frame all of our actions.

Always remember the RA mantras:

- Measure and improve.
- It takes a system to save a victim.
- If you've seen one EMS system, you've seen one EMS system.
- It's not complicated, but it's not easy.
- Performance not protocol.
- First, do a pilot.
- Snatch life from the jaws of death.

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STEP

1

Data to Guide Best Practices

Data collection and data sharing are crucial during epidemics. Good data lead to good decisions. **Key information to collect during the COVID-19 pandemic include:**

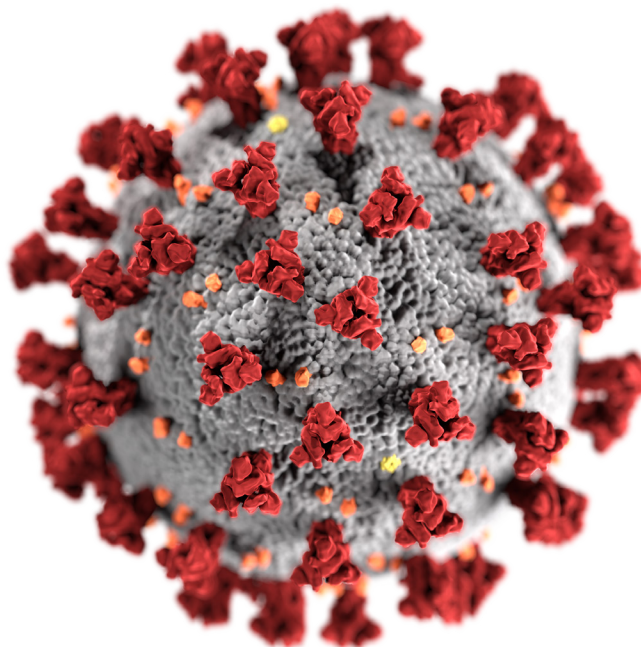
- Number and types of calls including suspected COVID-19 cases
- PPE and equipment “burn through” rates
- Invasive procedures
- Number and type of accidental exposures

Tracking these data points allows an agency to be proactive in the face of a rising number of cases and to take rational actions to deal with the surge in calls.

Regularly sharing data with all personnel helps make everyone feel part of the effort. It also leads to a sense of community—“we are all in this together.” Up-to-date data can reassure and prevent rumors from spreading. For example, knowing how many members in the department are quarantined is a way to treat every member with respect and caring.

Helpful Links:

- King County COVID-19 Dashboard: <https://www.kingcounty.gov/depts/health/communicable-diseases/disease-control/novel-coronavirus/data-dashboard.aspx>



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STEP

2

Dispatch Screening

Telecommunicators are the first First Responders on all EMS calls. In the setting of COVID-19, they provide a critical role in determining the risk of exposure for first responders. **There are two key categories for interrogating all callers:**

- **Premise history:** What is the address? Is it a “high-risk” facility, or has it been designated by premise information as a known COVID-19 location?
- **Patient:** Does the patient have any respiratory symptoms—i.e., cough, shortness of breath, or difficulty breathing? Does the patient have a fever or sore throat?

Not only does excellent communication and documentation drive EMS actions in the field, CAD data provides insightful information for overall system surveillance. Working as a team, communication centers and EMS providers can make a significant impact in reducing the spread of COVID-19.

Helpful Links:

- King County EMS protocol (page 3): <https://www.emsonline.net/assets/2020-Announcements/COVID-19-EMS-Directive-KCEMS-Revised-3-28-2020.pdf>
- NENA: <https://www.nena.org/page/covid19>
- APCO: <https://www.apcointl.org/resources/911-info/information-on-covid-19-for-emergency-communications-centers/>
- MPDS: <https://www.emergencydispatch.org/COVID-19-Communications>



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STEP

3

PPE including donning and doffing

We all know that PPE is essential to safely conduct EMS work, but in this new environment, we have an extra responsibility. We must not only put on additional PPE (don), we must be consistently disciplined in how we put it on. Perhaps even more importantly, we must be rigorously disciplined in how we take it off (doff).

All teams should visualize and plan the entire evolution of sending in Scouts (see step 4.) to evaluate and treat a COVID patient; from the moment they step out of the apparatus to the moment they come back to the station. The aftermath of caring for a potentially infected patient is as important as what transpires on-scene. Properly doffing and managing potentially contaminated PPE places an extra burden on all members. Care providers must be aware of their roles. Best practices from HazMat teams can be very instructive, with members managing actions in Cold/Warm/Hot zones. As with all actions, Practice Prevents Poor Performance.



For the individual EMS provider, we recommend the easily recalled acronym **MEGG** for donning PPE:

- N-95 **Mask**
- Protective **Eyewear** (wrap around) to include splash shield during aerosolized procedures
- Disposable **Gown**
- Disposable (non-sterile) **Gloves**

When doffing PPE, the acronym is reversed: **GGEM**.

- Remove **Gloves**
- Remove **Gown**
- Wash hands with soap/water or alcohol-based hand sanitizer (20 seconds)
- Remove **Eye Protection** (can be set aside, cleaned and re-used later)
- AFTER all disposable PPE has been placed in a biohazard bag, carefully remove **Mask** (See Seattle Fire Department COVID-19 Decon video below)
- Wash hands with soap/water or sanitizer (20 seconds), air dry hands
- Put on new gloves to decontaminate your equipment

Helpful Links:

- Seattle Fire Department Donning PPE Video: <https://vimeo.com/398311635>
- Seattle Fire Department Doffing PPE Video: <https://vimeo.com/398309782>
- Seattle Fire Department COVID-19 Decon Video: <https://vimeo.com/403478025>

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STEP

4

Scout the patient

EEMS provider teams need to limit the number of members who may become exposed to a COVID-19 positive patient. Due to the high numbers of potentially infected patients, agencies are currently faced with PPE shortages. The safe donning and doffing of PPE creates extra roles and responsibilities for all responding providers. Given all of these factors, establishing a “Scout” or “recon” (reconnaissance) role within your team is recommended.

The role of the Scout is to connect with the reporting party/patient, visualize the scene, perform an initial assessment of the patient for possible COVID-19 and determine risk to the crews from viral exposure while at a safe distance. An effective way to gather needed information is through an across-the-room assessment utilizing the Sick/Not Sick approach. The Scout can appreciate the five key clinical indicators of the Sick/Not Sick program without even touching the patient.

- **Respirations** (fast, slow, irregular, noisy, absent)
- **Pulse** (distal pulse present, bounding, weak, rapid, can include vital signs as needed)
- **Mental Status** (conscious, alert, lethargic, unconscious)
- **Skin Signs** (pink, pale, diaphoretic)
- **Body Position** (comfortable, sitting, distressed, supine, prone)

In addition, specific screening questions about fever, cough, shortness of breath, and sore throat should be asked.

We recommend the following protocol:

- Treat ALL patients as though they are COVID-19 positive (until proven otherwise).
- Use a Scout approach
 - One EMS provider assesses the patient from the doorway (Sick/Not Sick) in MEGG PPE (N-95 Mask, Eye protection, Gown and Gloves) and instructs additional providers (outside of the room) what level of PPE is required for entry and what level of medical care is needed
 - The Scout enters the scene with a “Go Bag” consisting of minimal equipment to assess the patient and obtain vitals without contaminating the entire jump kit

Along with determining the status of the patient, the Scout should mitigate all unnecessary hazards for the team and determine if additional resources or personnel are needed. Mitigating hazards in our current environment includes, but not limited to, requesting all bystanders leave the area of evaluation and treatment.

The Scout role is vitally important. It should be undertaken by a provider with solid assessment abilities and experience. They should be in full MEGG (N-95) PPE. They should have flawless communication skills and equipment. Redundancy of selected equipment should be considered, e.g. radio accessible while wearing PPE and voice activated cell phone Bluetooth.

The actions, and the health of all following personnel depends on the diligence of a patient Scout.

Helpful Links:

- Seattle Fire Department Scouting video: <https://vimeo.com/399699759>
- Seattle King County EMS Sick/Not Sick document: <http://www.emsonline.net/assets/cbt165-sick-notsick-2007.pdf>



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STEP

5

Patient care modifications

Regrettably the pandemic precludes business as usual. The following modification are recommended:

- Treat ALL patients as though they are positive (until proven otherwise).
- Use a Scout approach (see step 4)

Consensus of current medical literature, regional and world experts: *The BIGGEST risk for contamination...improper level of PPE by Responders!*

- Proper MEGG PPE makes a difference during ALL aerosolized procedures (see step 3)
- Maintain a continuous seal with any BVM application (e.g. if possible, assign two personnel to BVM, one to secure and ensure the seal, the second to perform the ventilation)
- Reduce the use of nebulized medication (perform outdoors if possible)

According to the *New England Journal of Medicine* and U.S. Anesthesia Partners:

- ETI is recommended over SGA as the primary advanced-airway device because:
 - With properly inflated cuff (complete seal), it reduces aerosolization
 - With attached HEPA filter, it captures aerosolized particulates
 - Offers appropriate positive pressure ventilation
 - Offers reduced aerosolized contamination to additional EMS providers
 - ALL providers MUST don proper MEGG PPE
- If RSI is required:
 - Pre-oxygenate with NRM and O₂
 - Limit BVM (continuous seal) operation between drugs and ETI
 - Move to ETI as soon as possible post drug delivery
- If HP-CPR is required, perform as a “practiced approach” and work as you train!
 - ALL providers MUST don proper MEGG PPE
 - Minimal interruptions, high compression fractions
 - Perform outdoor if possible

Additional precautions in cases where there might be potential exposure to aerosolization include:

- Performing needed aerosol-generating tasks (nebulizers, intubation) in a more open, ventilated rather than confined setting. Avoid performing such procedures in a closed apparatus.
- Ensure good ventilatory flow through the apparatus (e.g. open windows in the apparatus with activation of the heating, ventilation and air conditioning (HVAC) system to ensure air flow).

Helpful Links:

- EMS Online (Seattle/King County) Airway, HP-CPR direction (starts at 27:12 into the video): <https://www.emsonline.net/Announcements/Infectious-Disease-Safety-Procedures.aspx#COVID-19-Presentation-032420>

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STEP

6

Patient disposition

Disposition decisions can be challenging given the lack of an immediate on-scene diagnosis for COVID-19.

Your final decision on patient management is primarily determined by **condition of patient and urgency for further therapy**. If your system has real time medical consultation, the decision to transport or not transport lies with the doctor. If medical consultation is not available, or your system does not require such contact, your decision for transport or non-transport is made on a variety of factors:

- Condition of the patient
- Living situation
- Support (family, friends, neighbors)
- Access to follow-up



If COVID-19 exposure is likely or COVID-19 related illness is present, the disposition is complicated and based on a variety of factors. Invoke your departmental, local or region plan for this encounter.

If there is no access to medical consultation, your decision must be based on what is best for the patient. Assuming a stable non-critical clinical situation, if a responsible adult can stay with the patient it is reasonable to recommend follow-up with the patient's Primary Care Provider and COVID-19 testing.

If the patient is alone and medically stable, he/she should be advised to seek medical care if symptoms worsen and suggest possible COVID-19 disease (call Primary Care Provider or local hotline for COVID-19). Advise self-isolation. Patient can be left with information regarding self-care.

Helpful Links:

- Patient education materials: <https://www.emsonline.net/assets/2020-Announcements/Patient-Leave-at-Home-TriFold-KCFCA-3-17-2020.pdf>
- Washington State Department of Health in multiple languages: <https://www.doh.wa.gov/Emergencies/NovelCoronavirusOutbreak2020/HealthEducation>

STEP

7

Decontamination of Equipment

When cleaning, wear gloves (and gown, mask, eye protection if available) and follow instructions on the cleaning product. Products with EPA-approved emerging viral pathogens claims are recommended for use against COVID-19. Refer to the list of approved disinfectants on the EPA website (link below) for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against COVID-19.

Adopt a **station cleaning checklist**

Decontamination guidelines are evolving. We recommend you follow your own department's processes for decontamination of your equipment. The following is the technique used in Seattle-King County.

Post Event (immediately after patient contact and transfer):

- Decontaminate apparatus as needed (with proper PPE)
- **Apparatus cleaning checklist**
- Decontaminate all exposed equipment (with proper PPE)
- **REVERSE MEGG: (GGEM)**
- Remove all clothing and wash accordingly
- Shower and dress using clean uniform

Helpful Links:

- Station Cleaning Checklist: <https://www.emsonline.net/assets/2020-Announcements/Station-Cleaning-Checklist-KCFCFA-3-19-2020.pdf>
- Apparatus cleaning checklist: <https://www.emsonline.net/assets/2020-Announcements/Apparatus-Cleaning-Checklist-KCFCFA-3-19-2020.pdf>
- EPA List of Disinfectants to Use Against COVID-19: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- Seattle Fire Department COVID-19 Decon Video: <https://vimeo.com/403478025>



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STEP

8

Post-event review


As soon as possible, meet with ALL affected EMS providers to debrief the event.

- Perform a “Hot Wash” debrief
- Use a **RWCR** approach
 - What went **Right**?
 - What went **Wrong**?
 - What do we need to **Correct**?
 - What do we **Repeat**?

Report any possible exposures in writing and surveillance sheet. Prepare and submit “Hot Wash” report up the Chain of Command.

Helpful Links:

- Hot Wash” debrief (FEMA Report): https://training.fema.gov/is/flupan/references/02_course%20forms%20and%20templates/02_hot%20wash%20form-508.pdf

**FEMA**

HOT WASH REPORT FORM
Exercise Determined Accord

DATE: _____

Name:		Evaluated Organization:	
Email:		Staff/Section:	
Telephone:		Role in Exercise:	

List the top three (3) organizational strengths:

1.)

2.)

STEP

9

Pre/mid/post-shift surveillance check

We strongly recommend all EMS members check their health on a routine basis, both objectively and subjectively. As with most things, following a checklist helps to ensure thoroughness.

Create a culture where a “Health and Safety Time-Out” is a routine part of every day. Your time-out can include station stand-downs on a rotating basis, giving providers time intervals to make an individual health report and decontaminate all station equipment and apparatus. Regular intervals are important. At a minimum, personnel should perform their health survey at the start, middle and end of their shift. The results should be captured, and trends reported.

Suggested items to include:

- Date
- Time
- Temperature
- Heart rate
- Blood pressure
- Felt feverish
- Cough
- Sore throat
- Difficulty breathing
- Shortness of breath
- Nasal congestion
- GI distress
- Vomiting

It is bad enough if one of the team becomes ill with COVID-19; but exposing the rest of the work force to illness while on shift can cause entire platoons to require quarantine, close stations, and increase the workload on the remainder of EMS providers. Monitoring the health of the EMS personnel over the course of their shift is an easy way to avoid this added hardship.

Helpful Resource:

- If you need more information on this step, please contact us: ann@resuscitationacademy.org

STEP

10

Leadership



Leadership is the secret sauce that helps steer an organization and staff through a crisis. The leadership qualities that increases an EMS agency's cardiac arrest survival rate are the same qualities that will successfully navigate an organization through a pandemic.

Qualities that define good leadership include:

- Support for all staff
- Frequent communications originating from persons in positions of authority
- Sharing of data and information
- Availability
- Willingness to listen
- Willingness to seek expertise and advice
- Transparency in policy decisions
- Nurture a collaborative environment
- Define challenges to the staff and explicitly state how they are being addressed

Leadership occurs at all levels within an organization. It is as important for the chief to lead his/her staff as it is for a veteran to lead a new recruit. Everyone in an organization can contribute to the collective leadership within the team.

The COVID-19 pandemic has created an operational situation that stresses leadership responsibility for all system members, e.g. the Scout leads from the front and informs the supervisor. *Working safely in an environment of multiple threats means that all PERSONS in the chain of survival are looking out for the safety of one another, and in that sense, everyone is a leader, EVERYDAY, EVERY CALL.*

Other Useful Links:

- CDC Guidance on COVID-19: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>
- Johns Hopkins map with numbers of cases: <https://coronavirus.jhu.edu/map.html>
- HHS Guidance around HIPAA and hospital follow-up for COVID-19 testing status: <https://www.hhs.gov/about/news/2020/03/24/ocr-issues-guidance-to-help-ensure-first-responders-and-others-receive-protected-health-information-about-individuals-exposed-to-covid-19.html?amp>
- AHA interview of Dr. Rea and Dr. Sayre about King County's response to COVID-19 week of March 16th: <https://soundcloud.com/americanheartstroke/insights-from-king-countyseattle-ems-coronavirus-response>
- The AHA re-interview Dr. Rea and Dr. Sayre for an updated look at King County's response to COVID-19 week of March 23: <https://soundcloud.com/americanheartstroke/update-on-the-local-response-to-the-covid-19-pandemic>

Final Words

Disclaimer: We believe this document represents current best practices for EMS personnel. Your departmental (local and regional) protocols take precedence over anything in this guide.

Thanks: We are indebted to the Seattle Fire Department and King County EMS for sharing their protocols.

In Appreciation: Your job is difficult, perhaps more difficult than it has ever been. You help the sick and the distressed, and in so doing place yourself at great risk. Know that your community and the Resuscitation Academy thank you for serving on the front line, admire you for showing up in a time of great need, and consider you heroes for taking on such a dangerous job.

