Northeast Ohio Regional EMS Protocol

COVID-19 Response Protocols and Standard of Care Exceptions

07.02.2020

A Product of Collaboration

The most current version of this protocol can be found at

# COVID-19 PPE and EXPOSURE

## PPE REQUIREMENTS

### PPE Requirements

**suspected or known COVID-19 patients**

- Surgical mask on patient during care where available
- Surgical mask minimum on all providers, N95 preferred.
- Gown preferred where available, follow departmental policy
- Gloves
- Eye Protection

### PPE Requirements

**WITH** Aerosol Generating Procedures

- Such as Breathing Treatments, Suction, CPAP, Airway Management, CPR

- Surgical mask on patient when not actively managing airway
- N95 or greater level respiratory protection
- Gown where available
- Gloves
- Eye Protection

## PPE KEY POINTS

- Follow CDC guidelines for proper donning / doffing of PPE – PPE requirements may change frequently, check for updates
- Surgical masks are to be used and reused throughout a shift unless soiled, damaged or exposed to person of concern (ex: coughing, aerosol generating procedure / treatment).
- All providers are to wear at minimal a surgical mask, gloves and eye protection on all patient encounters. N95 Preferred.
- If your PPE supply allows, all patients are to arrive at the hospitals wearing a surgical mask. If limited surgical mask, prioritize mask placement on patients with fever, cough, dyspnea or other flu like symptoms discussed in prior updates. Receiving EDs may want to place a mask on patients when then arrive.
- N95 masks can be used by a single EMS provider until soiled, damaged, or exposed to a person of concern. This could mean multiple shift use for N95 mask. Consider placing initials on masks that are being reused and storing in a paper bag to allow moisture in a used mask to dissipate.
- Departments using CAPR / PAPRs please follow your department policies for use and cleaning.
- If gowns are not available and concerning droplet exposure occurred, change into a clean uniform, remembering to wash hands after touching soiled clothing.
- Higher level of respiratory protection in excess of N95 include N99 mask, N100 mask, PAPR / CAPR, or full or partial facemasks with N95 or greater filters.
- Remove and discard (if not being re-used) All PPE, including gloves after patient drop off and wash hands or disinfect in patient room. Disinfect and reuse durable eye protection, consider reuse of mask per current departmental practice.
- Re-don PPE prior to decontamination of equipment.
- Follow Medical Direction or departmental directives for reuse of scarce equipment.
- Patient surgical masks may be replaced at the receiving hospital, 1:1 exchange for other PPE may vary by facility.
- Cloth masks are not for use during patient care or decon activities.

## EXPOSURE

### Exposure to COVID-19 Positive Patient

**WITH Appropriate PPE**

- Safe to return to work without restrictions
- Self - monitor for symptoms
- If symptoms develop during the shift, the provider should wear a surgical mask, place themselves in self-isolation and notify the receiving hospital’s Infection Control Department or follow departmental policy

### Exposure to COVID-19 Positive Patient

**WITHOUT Appropriate PPE**

- Notify the receiving hospital’s Infection Control Department and follow departmental exposure policies
- The provider is to complete an exposure form
- Self – monitor for symptoms following departmental policy
- If symptoms develop during the shift, the provider should wear a surgical mask, place themselves in self-isolation

## EXPOSURE KEY POINTS

- Self-Monitoring for symptoms includes taking temperature at least twice per day
- Self-Monitoring programs are being initiated by many departments to assure staff are well and not reporting to work with possible symptoms. Departments may decide to use these for routine employee monitoring or just after possible exposure.

## ADDITIONAL PERSONAL PROTECTION RECOMMENDATIONS

- During regional outbreaks it is recommended to wear surgical masks if available at station to prevent provider to provider contamination.
- Maintain social distancing of at least 6’ while at station and while sleeping.
- Clean and disinfect common areas frequently.
- Wash hands frequently.
- Self-monitor per departmental policy including temperature.
- Outside of patient care, it is recommended that surgical masks still be worn while on duty to help limit exposure and spread of the SARS-CoV-2 virus. It should be up to the individual departments to determine policy and exceptions.
July 1st, 2020

The Medical Directors and Public Health Officials of Cuyahoga County have become aware of several fire departments who are not wearing face masks while on duty in the station and while not on calls. This is a concern because of the increasing prevalence of COVID 19 positive cases in our area and the fact that many of these cases can present as asymptomatic while still shedding virus. Our EMS responders are doing a great job of protecting themselves with PPE while out on calls, but we must take actions to reduce the threat of community acquired infections in our co-workers and the risk of exposure while at work in congregate living areas like fire stations.

It is the ORDER of the Director of the Ohio Department of Health, in the Director’s Order dated May 29, 2020, “Businesses must require all employees to wear facial coverings...” and “that for purposes of this order, covered businesses include for-profit, non-profit, educational entities, or governmental entities (other than federal)...”.

Therefore, it is the STRONG RECOMMENDATION of the Medical Directors and Public Health Officials of Cuyahoga County, and the PUBLIC HEALTH ORDER of the ODH Director dated May 29, 2020, that all employees are to wear face masks at all times while on duty unless alone in a room, while eating or drinking at an appropriate social distance, or while sleeping in private rooms or in a common dormitory with an appropriate social distance of at least 6 ft.

COVID-19 Guidance from the IAFF furthers states “To help reduce the spread of COVID-19 and sustain a sufficient workforce to provide continuity of service throughout our communities, the IAFF strongly recommends that members begin wearing surgical masks at the fire station...For each shift, members are advised to wear a surgical mask while at the fire station and when in public for the full duration of their shift...Facemasks can also be used to reduce the risk of transmission. Importantly, facemasks should be worn as part of a comprehensive plan that builds and augments existing infection control practices, such as hand hygiene, disinfecting surfaces, social distancing, and other recommended mitigation strategies, including self-monitoring for symptoms prior to shift...”.

Special Statement on Face Mask Usage
ADULT PROTOCOL
COVID-19 RESPIRATORY DISTRESS and AIRWAY

Follow Field Termination of Resuscitation Protocol for Patients in Cardiac Arrest. Patients without ROSC should not be transported for all Health Care Providers Safety

UNIVERSAL PATIENT CARE PROTOCOL
PPE Minimum
Surgical Mask / Gown / Gloves / Eye Protection
Surgical Mask on Patient

12 LEAD EKG PROCEDURE
1) Contact to EKG and Transmission < 10 Min

IV / IO PROCEDURE

This protocol is intended to be used in place of the standard Adult Respiratory Distress protocol and Adult Airway protocol for patients who present with viral symptoms

MILD – Symptoms
Refer to COVID-19 TRANSPORT SUPPLEMENT PROTOCOL
OXYGEN By Nasal Cannula Under Surgical Mask if Transported

MODERATE / SEVERE DISTRESS
CAPNOGRAPHY PROCEDURE
OXYGEN By Least Aerosol Producing Method to Maintain SpO2 - NC / NRB
Consider and Prioritize Injectable Bronchodilators Over Inhaled
EPINEPHrine (ADRENALINE)
1 mg / ml (1:1000)
0.3 – 0.5 mg IM
Consider MAGNESIUM SULFATE
2 Grams IV Drip over 20 minutes
Danger: If > 50 Years or CAD
Use MAGNESIUM SULFATE First – Add Epinephrine if Unimproved
0.15 mg IM May Repeat Every 5 min
methylPREDNISolone
(SOLU – MEDROL)
125 mg IV / IO

If only for use in cases where Underlying COPD Or Asthma Are Likely Being Exacerbated by The Virus

Use the Following Only in Extremis and Not Responding to Above Treatments
ENHANCED PPE
Minimum PPE PLUS N95 or Higher-Level Protection REQUIRED
Obtain and Assist with Administration of Patients I D Albuterol (Proventil)
if Available – Preferred ALL PROVIDERS
Administer 4 Puffs
May Repeat
Treat with aerosol(s)
DUONEB
(ALBUTEROL / IPRATROPIUM)

Give in Location Other Than Ambulance if Able Without Risk to Others
CPAP PROCEDURE
Only If Refractory Hypoxemia / Not Responding to Basic Oxygenation Methods and Medications Above Use Viral Filter On CPAP if Available

Requires AIRWAY Management
CAPNOGRAPHY PROCEDURE
ENHANCED PPE
Minimum PPE PLUS N95 or Higher-Level Protection REQUIRED
BASIC MANUVERS FIRST
Open Airway
Nasal / Oral Airway
Bag-Valve-Mask
If Patient Spontaneously Breathing
Place NRB on Patient While Preparing to Manage Airway
If Not Spontaneously Breathing or Insufficient Breathing
BVM With 2 Hand Mask Seal to Minimize Leakage
Use Viral Filter on BVM Where Available
Move Quickly to Airway Placement

Consider Sedation prior to Advanced Airway Placement as per Standard Adult Airway Management Protocol
Extraglottic (BIAD)
AIRWAY Device
No Medications Down Extraglottic (BIAD) Airway
EMT Use in Pulsless & Apneic Patient Only
Esophageal Disease

Use the Following Only in Extremis and Not Responding to Above Treatments
Consider RSI Protocol
APPROVED DEPARTMENTS ONLY
INTUBATION PROCEDURE
Max 2 Intubation Attempts
AEMT Apneic Patient Only
Document Failed Attempt(s)

TRANSPORT to appropriate facility CONTACT receiving facility with EARLY NOTIFICATION of potential COVID-19 case AND VERIFY HOSPITAL ARRIVAL / ACCESS PROCESS before taking patient inside CONSULT Medical Direction where indicated APPROPRIATE transfer of care

EMT Intervention
AEMT Intervention
PARAMEDIC Intervention
Online Medical Control

Northeast Ohio Regional EMS Protocol SUPPLEMENT - 5 | 0
**PEDIATRIC PROTOCOL**

**COVID-19 RESPIRATORY DISTRESS and AIRWAY**

<table>
<thead>
<tr>
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**UNIVERSAL PATIENT CARE PROTOCOL**

- PPE Minimum
- Surgical Mask / Gown / Gloves / Eye Protection
- Surgical Mask on Patient

**IV / IO PROCEDURE**

This protocol is intended to be used in place of the standard Pediatric Respiratory Distress protocol and Pediatric Airway protocol for patients who present with viral symptoms.

**Mild – Symptoms**

- Refer to COVID-19 TRANSPORT SUPPLEMENT PROTOCOL
- OXYGEN By Nasal Cannula Under Surgical Mask if Transported

**Moderate / Severe Distress**

- CAPNOGRAPHY PROCEDURE
- OXYGEN By Least Aerosol Producing Method to Maintain SpO2 - NC / NRB

- Consider and Prioritize Injectable Bronchodilators Over Inhaled

- EPINEPHrine (ADRENALINE)
  - 0.01 mg / kg / 1 ml of
  - 1 mg / ml (1:1000)
  - Max dose 0.5 mg

- methylPREDNISolone
  (SOLU – MEDROL)
  - 2 mg / kg / IV / IO
  - Max Dose 125 mg

- ONLY for Use in Cases Where Underlying Asthma Are Likely Being Exacerbated by The Virus

- Use the Following Only in Extremis and Not Responding to Above Treatments

- ENHANCED PPE
  - Minimum PPE PLUS N95 or Higher-Level Protection REQUIRED

- Obtain and Assist with Administration of Patients MDI Albuterol (Proventil)
  - if Available – Preferred ALL PROVIDERS
  - Administer 2 Puffs
  - May Repeat if no results

- Treat with aerosol(s)
  - DUONEB
    - (ALBUTEROL / IPRATROPIUM)

- Give in Location Other Than Ambulance if Able Without Risk to Others

**Requires AIRWAY Management**

- CAPNOGRAPHY PROCEDURE
  - ENHANCED PPE
    - Minimum PPE PLUS N95 or Higher-Level Protection REQUIRED

- BASIC MANUVERS FIRST
  - Open Airway
  - Nasal / Oral Airway
  - Bag-Valve-Mask

- Extraglottic (BIAD) AIRWAY Device
  - No Medications Down Extraglottic (BIAD) Airway
  - EMT Use in Pulseless & Apneic Patient Only

- Use the Following Only in Extremis and Not Responding to Above Treatments

- INTUBATION PROCEDURE
  - Max 2 Intubation Attempts
  - AEMT Apneic Patient Only
  - Document Failed Attempt(s)

**TRANSPORT** to appropriate facility CONTACT receiving facility with EARLY NOTIFICATION of potential COVID 19 case AND VERIFY HOSPITAL ARRIVAL / ACCESS PROCESS before taking patient inside CONSULT Medical Direction where indicated APPROPRIATE transfer of care

**EMT Intervention**  **AEMT Intervention**  **PARAMEDIC Intervention**  **Online Medical Control**
## COVID-19 RESPIRATORY DISTRESS

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### General Management
- If your PPE supply allows, all patients are to arrive at the hospitals wearing a surgical mask. If limited surgical mask, prioritize mask placement on patients with fever, cough, dyspnea or other flu like symptoms discussed in prior updates. Receiving EDs may want to place a mask on patients when they arrive.
- Known of suspected COVID-19 patients should be transported to a full-service hospital with ICU capabilities.
- In cases failing to respond to standard oxygenation techniques consider positioning patient on their side or prone to improve oxygen saturation.

### Airway Management
- When high risk droplet procedures are required, the provider is recommended to wear a minimum of eye protection, gown, gloves and a N95. This may include intubation, CPAP, suction, aerosol treatments or care management of symptomatic tracheostomy patient.
- If BVM management of patient is required, use 2 hand mask seal and gentle reduced volume ventilation to help prevent aerosolization of virus.
- If a patient has an unstable airway, don PPE as described above and place an advanced airway. An extraglottic airway creates less exposure to aerosols / droplets and is preferred. Intubation is permitted as a backup. Consider placing a towel around a properly secured airway to help prevent sprayed droplets.
- Video laryngoscopy is preferred to help assure distance from the patient during intubation when it is required.
- Do not use delivery of high flow oxygen via nasal cannula during intubation procedure in COVID-19 cases.
- In-line HEPA filters, where available, should be utilized during ventilation of patients with ETT or supraglottic airway. Use with CPAP or nebulized treatments can vary with product. If using in-line sampling capnography as well, make sure the HEPA filter is placed closest to the patient and capnography sampling connector is after the HEPA filter.

### Oxygen Delivery
- Place oxygen delivery devices (nasal cannulas / non-rebreathers) under surgical mask to help prevent aerosolization of virus, particularly if the patient is coughing.

### Inhaled Medications
- If the patient has a metered dose inhaler, make sure this goes with the patient if transported. EMS may utilize patients MDI in place of standard aerosol treatments to help minimize risk of these procedures in these patients.
- If nebulized treatments must be given, attempt to give in location other than the ambulance, but also nowhere that will expose others. Assure receiving facility is aware of this in EMS to Hospital report.
- Consider the use of IM epinephrine or IV magnesium per standard respiratory distress protocols for severe cases. This is indicated earlier and for milder symptoms in these cases to help minimize the risk associated with nebulized treatments.

### Cardiac Arrest
- In the absence of ROSC, follow termination of resuscitation guidelines.

### Transfer of Care Management
- To limit exposure to others in common areas, discontinue all aerosol treatments / CPAP / BVM ventilation without HEPA filter immediately prior to entering ED and resume immediately in the patient’s room with the door closed.

### GENERAL KEY POINTS
- **Status asthmaticus** - severe prolonged asthma attack unresponsive to therapy - life threatening!
- If the patient is over 50 years of age, has a history of cardiac disease, or if the patient’s heart rate is >120 EPINEPHrine (Adrenaline) may precipitate cardiac ischemia.
- Monitor pulse oximetry continuously during treatment and transport.
- A silent chest in respiratory distress is a pre - respiratory arrest sign.
- Be alert for respiratory depression in COPD patients on prolonged high flow oxygen administration.
- **DO NOT** withhold oxygen from hypoxic patients.
- If Albuterol (Proventil) and / or Ipratropium (Atrovent) is given, monitor the patient’s cardiac rhythm.
- Assure enough expiration time when ventilating COPD or asthma patients to prevent breath stacking and Co2 elimination.
- Albuterol (Proventil) and Ipratropium (Atrovent) can be given down an ETT or Tracheotomy during ventilation if there is evidence of bronchoconstriction.
- **EtCo2 measurement is mandatory with all methods of intubation. Document results of SpO2.**
- Limit intubation attempts to 2 per patient max.
- If unable to intubate, continue BVM ventilations, transport rapidly, and notify receiving hospital early.
- Do not assume hyperventilation is psychogenic - use oxygen, not a paper bag.
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.
- Consider c-collar to help maintain airway placement for all managed airway patients.
- Consider the use of intubation aids such as a bougie or video laryngoscope to facilitate intubation.
- **Extraglottic airway device / BIAD (Blind Insertion Airway Device) Examples (not limited to); King Airway, LMA, Combitube, iGel**
Known or suspected COVID-19 Patient

One or more viral symptoms present;
- Fever
- Cough
- Nasal / Chest Congestion
- Sore Throat
- Body Aches
- Dyspnea

Provider and Patient PPE for droplet precautions per most current guidelines

Limit number of providers with patient contact, only as many as required for indicated interventions

UNIVERSAL PATIENT CARE PROTOCOL

Conduct Patient Assessment – EMS Taken Vitals

Vital Signs – **All**
- SBP ≥ 100
- Resp < 22
- Spo2 ≥ 94 RA

Vital Signs – **Any**
- SBP < 100
- Resp > 22
- Spo2 < 94 RA

Stable for NO TRANSPORT

Patient Medical History - **All**
- Age < 60 > 3 years
- Not ESRD on dialysis
- No CAD/HF
- No lung or heart disease
- Not immunocompromised
- No History of HTN

Patient Medical History - **Any**
- Age > 60 < 3
- ESRD on dialysis
- Lung or heart disease
- Immunocompromised
- History HTN/CAD/HF

Patient Complaint - **Any**
- Chest Pain, Shortness of breath, or Syncope

Determine Suitability for Home Care
- Appropriate Care Givers are available (if needed)
- There is separate space for the patient to recover without sharing with others
- The patient has access to food, water, and other necessities
- There are no household members with high risk history (Noted above)

Release without transport to care of self with standard non-transport release if patient consents to non-transport. Contact Medical Control only if the patient does not consent. Medical Control contact not required if within above criteria.

Provide patient resources for hotlines, testing, and / or telemedicine.
Complete thorough PCR regarding assessment and instructions given.

ALS ASSESSMENT (WHERE AVAILABLE)

Minimize aerosol or droplet producing procedures unless required such as CPAP and aerosol treatments

Obtain phone numbers for key family / caregivers and provide to receiving Hospital as visitation / access to patient likely to be restricted. Give to receiving facility

TRANSPORT to appropriate facility
- CONTACT receiving facility as early as possible to indicate a person of interest for COVID-19.
- Follow Hospital instructions for access to Hospital once at destination.
- CONSULT Medical Direction where indicated

Remove PPE with caution following established doffing techniques and discard appropriately.
Through decontamination for ambulance and equipment following current disinfection standards.
## COVID-19 TRANSPORT

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### KEY POINTS

- Patients must be transported with required PPE outlined in the COVID-19 PPE and Exposure protocol.
- If a patient is not transported from a location other than home, discourage the use of public transportation.
- Turn on vent fan and HVAC to create negative pressure in ambulance during transport.
- Please do not enter the Emergency Department with a suspected COVID-19 patient until you have verified the ED is ready to receive the patient. This usually involves clearing hallways of other personnel/patients, preparing isolation rooms, and closing other patient’s doors.
- Consider finishing or halting aerosol producing treatments during transition from ambulance to the Emergency Department.
- If patient is transported, obtain phone numbers for family and / or caregivers if applicable as the visitation of the patient is likely to be restricted at the hospital. Give this information to the receiving facility.
- For calls in apartment buildings, multi-family dwellings, or skilled nursing facilities, the patient should wait in their residence and public safety providers will meet them there. This will allow public safety providers to place a mask on the patient, limiting droplet spread in common areas.
**ACUTE CORONARY SYNDROME**

**Utilize this for ALL ACS Patients, regardless of COVID-19 symptoms, until Medical Direction advises otherwise**

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**UNIVERSAL PATIENT CARE PROTOCOL**

- Do not give OXYGEN unless SpO₂ <94%
- **CAPNOGRAPHY PROCEDURE**
  - **IV / IO PROCEDURE**
    - 12 LEAD EKG PROCEDURE - LEFT
    - Look for ST Elevation - Transmit to ED

**EKG INDICATES STEMI - CONSULT PHYSICIAN IF UNSURE**

- Strongly encourage transport to hospital with interventional Cath lab (PCI) when STEMI is present on 12 lead
- **If ST Elevation Leads II, III, AvF**
  - 12 LEAD EKG PROCEDURE - RIGHT
  - Right Sided Precordial Lead V₄₅ - Transmit to ED
  - **DO NOT DELAY TRANSPORT TO ACQUIRE RIGHT SIEDED 12 LEAD USE CAUTION - NITROGLYCERINE (NITRO-STAT) if elevation in V₄₅**
  - Use caution with acute septal wall MI (V₁, V₂) – Watch for AV blocks – Consider placing pacing pads

**ASPIRIN**

- 324 mg chew and swallow (81 mg / tab x4)

**NITROGLYCERIN (NITRO-STAT / Go-Nitro)**

- 0.4 mg (400 mcg) SL
- (If SBP >110 with IV or SBP >120 without IV)
- May give up to 3 total, every 5 minutes if working

- Erectile Dysfunction / Pulmonary HTN drug use within 48 hrs.
- EMT use requires DIRECT Med Control

**IF cocaine or stimulant induced STEMI include**

- MIDAZOLAM (VERSED) 2.5 mg IV / IO or 5 mg IM / IN
- OR
- LORazepam (Ativan) 1 – 2 mg IV / IO / IM / IN

- If Midazolam (Versed) or LORazepam (Ativan) Unavailable, See Medication Section for DiazePAM (Valium)

**IF Nausea / Vomiting**

- ONDANSETRON (ZOFRAN) 4 mg IV / IM
- OR
- PROMETAMZIRINE (PHENERGAN) 12.5 mg IV / 25 mg IM

**ONDANSETRON (ZOFRAN) Oral Disintegrating Tablet (ODT)**

- if Nausea / Vomiting - 4 mg Oral – may repeat max 8 mg

**Paramedic Treatment if Confirmed STEMI**

- TICAGRELOR (BRILINTA) 180 mg Chew and Swallow PO
- **HEPARIN**
  - 60 Units / kg IV / IO
  - Max Dose 4000 Units

**CONSIDER fentaNYL (SUBLIMAze)**

- 25 – 100 mcg IV / IM / IN – SLOW IV – Max 100 mcg

- If fentaNYL (Sublimaze) is unavailable, See Medication Section for Morphine Sulfate
- Routine use of opiate pain control discouraged if TICAGRELOR (BRILINTA) being utilized – interferes with absorption

**TRANSPORT to appropriate facility (PCI)**

- CONTACT receiving facility
- CONSULT Medical Direction where indicated
- APPROPRIATE transfer of care

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**ELECTIVE INTERVENTION**

- **EMT**
- **AEMT**
- **PARAMEDIC**
- **Online Medical Control**
## ACUTE CORONARY SYNDROME

### HISTORY
- Age
- Medications
- Past medical history (MI, angina, diabetes)
- Allergies
- Recent physical exertion
- Onset
- Palliation / Provocation
- Quality (crampy, constant, sharp, dull, etc.)
- Region / Radiation / Referred
- Severity (1-10)
- Time (duration / repetition)

### SIGNS AND SYMPTOMS
- CP (pain, pressure, aching, tightness)
- Location (substernal, epigastric, arm, jaw, neck, shoulder)
- Radiation of pain
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness

### DIFFERENTIAL DIAGNOSIS
- Trauma vs. medical
- Angina vs. myocardial infarction
- Pericarditis
- Pulmonary embolism
- Asthma / COPD
- Pneumothorax
- Aortic dissection or aneurysm
- GE reflux or hiatal hernia
- Esophageal spasm
- Chest wall injury or pain
- Pleural pain

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### Anti-Platelet and Anti-Coagulant Medications
- Clopidogrel (Plavix), Prasugrel (Effient), Ticagrelor (Brilinta), Ticlopidine (Ticlid), Apixaban (Eliquis), Dabigatran (Pradaxa), Edoxaban (Savaysa), Fondaparinux (Arixtra), Rivaroxaban (Xarelto), Warfarin (Coumadin, Jantoven), Betrixaban (Bevyxxa)

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### KEY POINTS
- During COVID-19 outbreak some hospitals may manage patient in the ED rather than send to the Cath lab. Call before all administrations of Ticagrelor (Brilinta) or Heparin as these interventions may interfere with medical management of these cases. This applies to all cases, not just suspected or known COVID-19 cases with ACS.
- Make the scene safe: All chest pain patients must have an IV and 12 Lead EKG.
- Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro.
- If patient has taken Nitroglycerin (Nitro-stat) without relief, consider potency of the medication.
- If positive ECG changes, establish a second IV while enroute to the hospital.
- Monitor for hypotension after administration of Nitroglycerin (Nitro-stat) or FentaNYL (Sublimaze).
- Nitroglycerin (Nitro-stat) or FentaNYL (Sublimaze) may be repeated per dosing guidelines in the MEDICATIONS SECTION.
- Diabetics / geriatric patients often have atypical pain, vague, or only generalized complaints. Be suspicious of a “silent MI”.
- Refer to the BRADYCARDIA PROTOCOL (HR < 60 bpm) or NARROW COMPLEX TACHYCARDIA PROTOCOL (HR > 150 bpm) if indicated.
- If the patient becomes hypotensive from Nitroglycerin (Nitro-stat), FentaNYL (Sublimaze) administration, place the patient in the Trendelenburg position and administer a Normal Saline bolus.
- Be prepared to administer Narcan (Naloxone) if the patient experiences respiratory depression due to FentaNYL (Sublimaze) administration.
- If pulmonary edema is present, refer to the CHF / ACUTE PULMONARY EDEMA PROTOCOL. Consider other causes of chest pain such as aortic aneurysms, pericarditis, esophageal reflux, pneumonia, pneumothorax, costochondritis, pleurisy, pancreatitis, appendicitis, cholecystitis (gallbladder), and pulmonary embolism.
- Aspirin can be administered to a patient on Coumadin (Warfarin), unless the patient’s physician has advised them otherwise.
- If the patient took a dose of Aspirin that was less than 324 mg in the last (24) hours, then additional Aspirin can be administered to achieve a therapeutic dose of 324 mg.
- DO NOT administer Nitroglycerin (Nitro-stat) to a patient who took an erectile dysfunction medication; Sildenafil (Viagra), Tadalafil (Cialis), Vardenafil (Levitra), etc. within the last 48 hours due to potential severe hypotension.
- Nitroglycerin (Nitro-stat) can be administered to a patient by EMS if the patient has already taken their own prior to your arrival. Document it if the patient had any changes in their symptoms or a headache after taking their own Nitroglycerin. Nitroglycerin (Nitro-stat) can be administered to a hypertensive patient complaining of chest discomfort without Medical Direction permission.
- Nitroglycerin (Nitro-stat) can be administered without an IV as long as patient has a BP greater than 120 mmHg, without signs of inferior wall MI.
- DO NOT treat PVC’s with Amiodarone (Cordarone) unless patient develops runs of V-Tach, or has sustained V-tach.
- Pulse oximetry is not an indicator of myocardial perfusion.
- Only administer oxygen if the patient is hypoxic with a SpO2 of less than 94. Do not withhold oxygen from patients that are short of breath regardless of SpO2.
- Once applied to a known or suspected ACS patient do not remove a 12 lead EKG, even if the initial EKG is unremarkable. Some devices continue to look for ST segment changes and will alert if there are changes.
CARDIAC ARREST EXCEPTION

Review DNR Comfort Care Guidelines
CONTACT ONLINE MEDICAL CONTROL

AT ANY TIME
Return of Spontaneous Circulation (ROSC)
GO TO POST RESUSCITATION CARDIAC CARE

BEGIN CPR IMMEDIATELY
Consider ITD During CPR
Attach Cardiac Monitor Defibrillator / AED as soon as available

DELIVER SHOCK x 1 if Shockable
Immediately Resume CPR - 2 minutes

IV / IO PROCEDURE
AIRWAY PROTOCOL

DELIVER SHOCK x 1 if Shockable
Maintain CPR / Airway
Follow AED Prompts (if applicable)

Continue CPR

TRANSPORT to appropriate facility
CONTACT receiving facility
CONSULT Medical Direction where indicated
APPROPRIATE transfer of care

IF ALS CARE AVAILABLE IN FIELD
Patients in cardiac arrest SHOULD be worked on scene UNLESS special resuscitation circumstances exist that would benefit from hospital treatment unavailable in the field

Termination of Resuscitation
1. Unwitnessed arrest by EMS
2. Non shockable rhythm
3. No ROSC within 20 mins

Contact Medical Control as Required by Local Policy

BLS Termination of Resuscitation are now in place. This applies to ALS and BLS providers. Traditional tools still helpful in guiding decision making, but previous parameters not required.
ADULT PROTOCOL

CARDIAC ARREST EXCEPTION

<table>
<thead>
<tr>
<th>HISTORY</th>
<th>SIGNS AND SYMPTOMS</th>
<th>DIFFERENTIAL DIAGNOSIS</th>
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</thead>
<tbody>
<tr>
<td>• Events leading to arrest</td>
<td>• Unresponsive</td>
<td>• Medical vs. trauma</td>
</tr>
<tr>
<td>• Estimated downtime</td>
<td>• Apneic</td>
<td>• V-fib vs. pulseless V-tach</td>
</tr>
<tr>
<td>• Past medical history</td>
<td>• Pulseless</td>
<td>• Asystole</td>
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<tr>
<td>• Medications</td>
<td></td>
<td>• Pulseless electrical activity (PEA)</td>
</tr>
<tr>
<td>• Existence of terminal illness</td>
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<td></td>
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<tr>
<td>• Signs of lividity, rigor mortis</td>
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<td></td>
</tr>
<tr>
<td>• DNR</td>
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KEY POINTS

• Termination of Resuscitation with NO transport to the hospital should be performed when there is an unwitnessed arrest, a non-shockable rhythm (either by manual or AED interpretation), and no field ROSC within 20 minutes.

• Patients may always be transported from unsafe scenes to assure provider welfare.

• Contact Medical Control as required by local policy for field termination.

• Always minimize interruptions to chest compressions.

• Consider attachment of ITD to enhance circulation with chest compressions. Remove if there is a return of spontaneous circulation (ROSC).

• Success is based on proper planning and execution. Procedures require space and patient access, make room to work.

• Reassess airway frequently and with every patient move.

• Maternal arrest - Treat mother per appropriate protocol with immediate notification to Online Medical Control and rapid transport.

• If the patient converts to another rhythm, refer to the appropriate protocol and treat accordingly.

• Attempt to obtain patient history from family members or bystanders.

  • Estimated down time
  • Medical history
  • Complaints prior to arrest
  • Bystander CPR prior to EMS arrival
  • AED use prior to EMS arrival

• Administer Dextrose only if the patient has a blood glucose level < 70 mg/dl. Dextrose should be administered as soon as hypoglycemia is determined.

• Reassess the patient if the interventions do not produce any changes.

• If indicated, refer to the TERMINATION OF RESUSCITATION EFFORTS POLICY.

• If patient is pregnant and in cardiac arrest, manually manipulate the uterus to the left during CPR.
## COVID-19 EMS Protocol Supplement Change Log

### 03.31.2020

<table>
<thead>
<tr>
<th>Page</th>
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<tr>
<td>1-0</td>
<td>Added orange box in upper right-hand corner regarding following field termination protocols</td>
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<tr>
<td>1-0</td>
<td>Added “Drip” to Magnesium Sulfate administration</td>
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<tr>
<td>3-0</td>
<td>Field termination bullet point added</td>
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<tr>
<td>5-0</td>
<td>Added last bullet point regarding multifamily dwellings and SNF’s.</td>
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<tr>
<td>6-0</td>
<td>Changed left column of top chart to “without aerosol generating procedures” to “suspected or known COVID-19 patients”</td>
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<tr>
<td>6-0</td>
<td>Added “where available” to gowns and surgical masks</td>
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<tr>
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<td>Added “CPR” to such as descriptions of with aerosol generating procedures in right column of top chart.</td>
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<td>6-0</td>
<td>Added “Remove and discard (if not being re-used) All PPE, including gloves after patient drop off and wash hands”</td>
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<tr>
<td>6-0</td>
<td>Added “Follow Medical Direction or departmental directives for reuse of scarce equipment.”</td>
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<tr>
<td>6-0</td>
<td>Added Additional Personal Protection Recommendations chart at bottom of page</td>
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<tr>
<td>6-0</td>
<td>Added “Patient surgical masks may be replaced at the receiving hospital, 1:1 exchange for other PPE may vary by facility”</td>
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### 04.03.2020

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<tr>
<td>3-0</td>
<td>Added discontinuation of treatments statement during movement through ED</td>
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<tr>
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<td>Added transport to hospital with ICU capabilities</td>
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<td>6-0</td>
<td>Clarified “regional” outbreak</td>
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<tr>
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<tr>
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<td>Added table of contents page</td>
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<td>ALL</td>
<td>Re-ordered pages, putting PPE first in order</td>
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<td>4-0</td>
<td>Changed verbiage for sedation prior to airway management to match base protocol</td>
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<td>Grouped COVID treatment points by topic</td>
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<td>Added bullet point for BVM gently</td>
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<td>Added bullet point for video laryngoscopy</td>
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<td>Added bullet point for oxygen delivery devices</td>
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<td>8-0</td>
<td>Added bullet point regarding HVAC and vent in ambulance</td>
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<td>Added exception for ACS protocol for systems giving prehospital ticagrelor(brilinta) or heparin requires receiving hospital contact prior to admin</td>
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<td>Added ACS exception key points page with ticagrelor(brilinta) or heparin administration points</td>
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<td>11-0</td>
<td>Added cardiac arrest protocol exception with BLS field termination points</td>
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<tr>
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<td>Added cardiac arrest protocol key points exception with BLS field termination points</td>
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<td>Added consideration for the use of a towel over a secured airway to help with droplet mitigation</td>
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<td>Added bullet point regarding PPE requirements during transport</td>
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