

Nebraska
Board of Emergency Medical Services
COVID-19
EMS Supplemental
Protocols
Basic and Advanced Life Support
All Provider Levels
Last updated 5/4/2020

[For the most recent updates CLICK HERE](#)

The Table of Contents has a Revised Date to show when that Protocol or Section was revised.

Nebraska EMS Supplemental Protocols

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Adult Medical Protocols \$



Nebraska EMS Supplemental Protocols

CARDIAC ARREST – COVID-19 (Revised 5/4/2020)

ALL LEVELS

- Follow current cardiac arrest algorithm with these special considerations

CARDIAC ARREST OF THE SUSPECTED OR CONFIRMED COVID-19 PATIENT

Adjustments to CPR algorithms in suspected or confirmed COVID-19 patients.

Reduce provider exposure:

- Don PPE before entering the room/scene
- Limit personnel
- Consider using mechanical CPR devices for adults and adolescents who meet height and weight criteria
- Communicate COVID-19 status to any new providers

Prioritize oxygenation and ventilation strategies with lower aerosolization risk:

EMR

- Use a HEPA filter, if available, for all ventilation
- Consider passive oxygenation with non-rebreather face mask covered by a surgical mask as alternative to bag-mask device for short duration
- Minimize closed circuit disconnections

EMT and AEMT

- Intubate early with a cuffed tube, if possible
- Assign the provider intubating with highest chance of first-pass success to intubate
- Pause chest compressions to intubate
- Before intubation, use a bag-mask device with a HEPA filter and a tight seal
- If intubation delayed, consider manual ventilation with a supraglottic airway or bag-mask device with a HEPA filter

EMT-I and Paramedic

- Intubate early with a cuffed tube, if possible, and connect to mechanical ventilator, when able
- Consider use of video laryngoscopy, if available

Consider the appropriateness of starting and continuing resuscitation:

- The risk to the clinical team is increased and resources can be profoundly more limited, particularly in regions that are experiencing a high burden of disease.
- Therefore, it is reasonable to consider age, comorbidities, and severity of illness in determining the appropriateness of resuscitation and balance the likelihood of success against the risk to rescuers and patients from whom resources are being diverted.

Nebraska EMS Supplemental Protocols

Telecommunication (Dispatch):

- Telecommunicators, consistent with local protocols, should screen all calls for COVID-19 symptoms (eg, fever, cough, shortness of breath) or known COVID-19 infection in the victim or any recent contacts, including any household members.
 - For lay rescuers, telecommunicators should provide guidance about risk of exposure to COVID-19 for rescuers and instructions for compression-only CPR, as above.
 - For EMS, telecommunicators should alert dispatched EMS teams to don PPE if there is any suspicion for COVID-19 infection.

Transport:

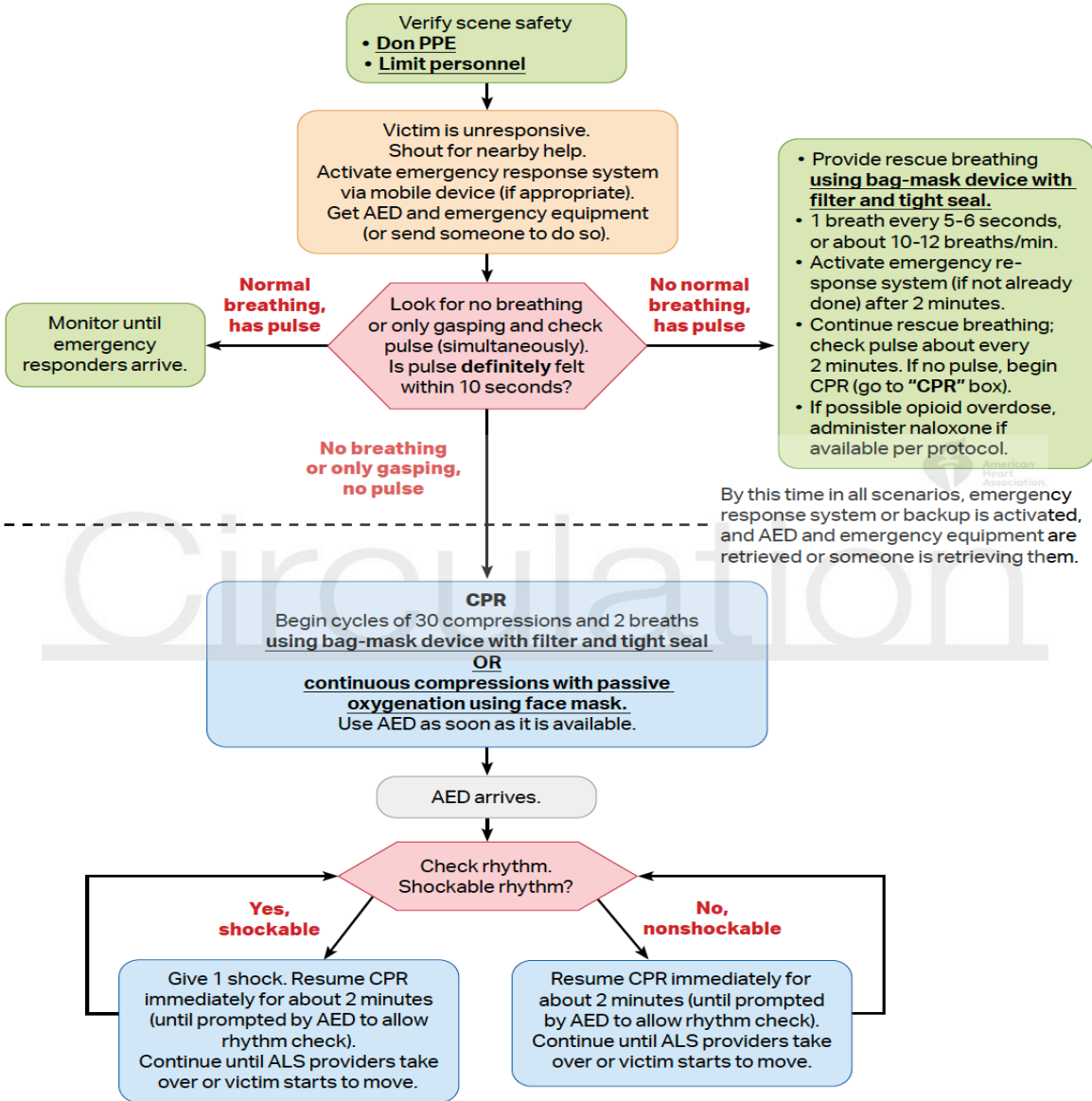
- Family members and other contacts of patients with suspected or confirmed COVID-19 should not ride in the transport vehicle.
- If return of spontaneous circulation (ROSC) has not been achieved after appropriate resuscitation efforts in the field, consider not transferring to hospital given the low likelihood of survival for the patient, balanced against the added risk of additional exposure to prehospital and hospital providers.

CARDIAC ARREST – CPR & AED (Revised 5/4/2020)

EMR – EMT – AEMT

BLS Healthcare Provider Adult Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients

Updated April 2020



EMR Options If Approved

- Place patient on back/CPR board
- Initiate transport
- Call for intercept from backup service

EMT

- Place patient on back/CPR board

EMT Options if Approved and AEMT, Paramedic After First Cycle of CPR and Shock or No Shock

- Consider an advanced airway using above listed methods
- Consider impedance threshold device
- Consider IV Access with Normal Saline or LR

AEMT

- Consider IO access

EMT/AEMT/Paramedic

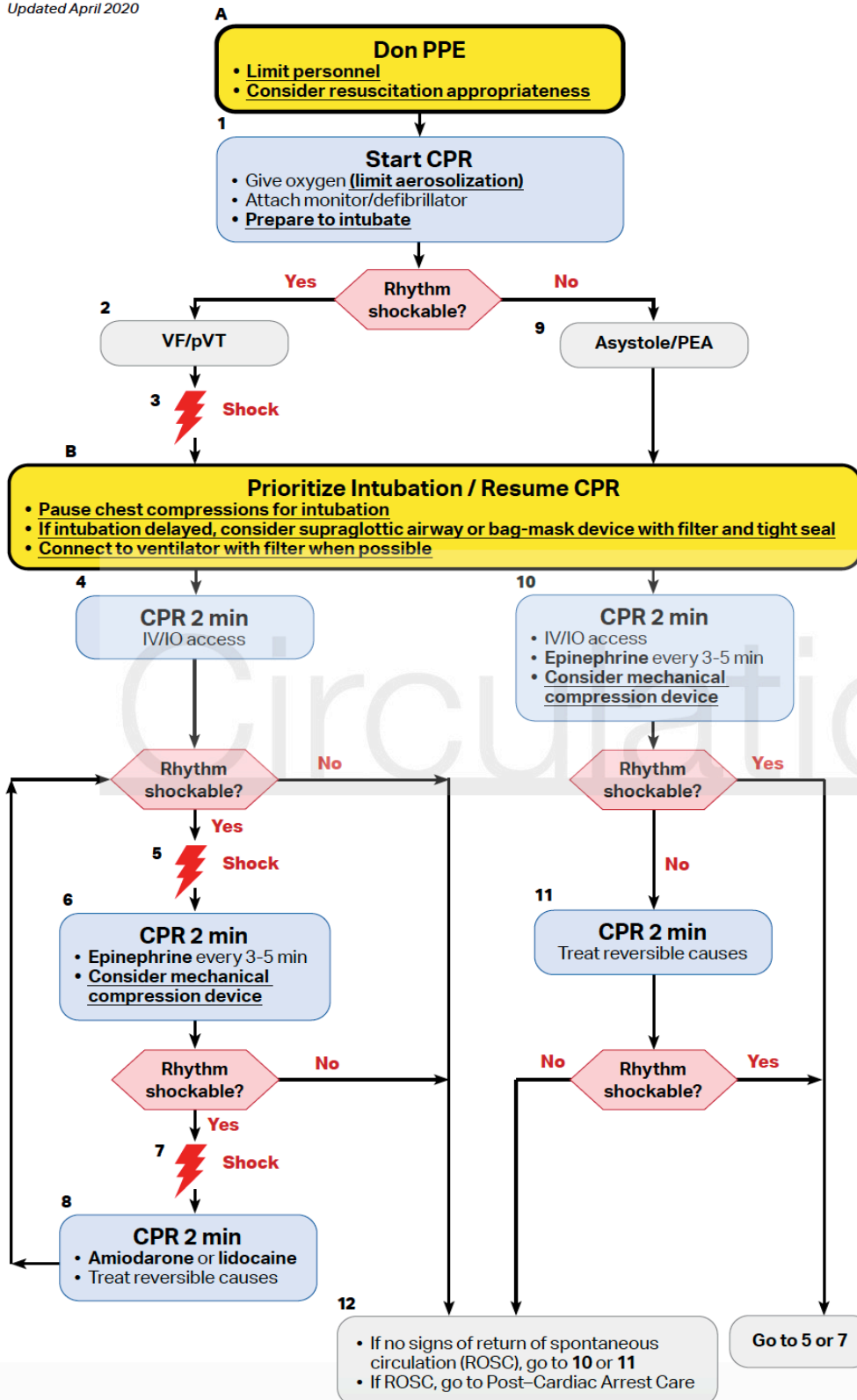
- Consider mechanical CPR

CARDIAC ARREST – ADVANCED CARDIAC LIFE SUPPORT (Revised 5/4/2020)

EMT-I AND PARAMEDIC

ACLS Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients

Updated April 2020



- CPR Quality**
- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
 - Minimize interruptions in compressions.
 - Avoid excessive ventilation.
 - Change compressor every 2 minutes, or sooner if fatigued.
 - If no advanced airway, 30:2 compression-ventilation ratio.
 - Quantitative waveform capnography
 - If PETCO₂ <10 mm Hg, attempt to improve CPR quality.
 - Intra-arterial pressure
 - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality.
- Shock Energy for Defibrillation**
- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
 - **Monophasic:** 360 J
- Advanced Airway**
- **Minimize closed-circuit disconnection**
 - **Use intubator with highest likelihood of first pass success**
 - **Consider video laryngoscopy**
 - Endotracheal intubation or supraglottic advanced airway
 - Waveform capnography or capnometry to confirm and monitor ET tube placement
 - Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions
- Drug Therapy**
- **Epinephrine IV/IO dose:** 1 mg every 3-5 minutes
 - **Amiodarone IV/IO dose:** First dose: 300 mg bolus. Second dose: 150 mg, or
 - **Lidocaine IV/IO dose:** First dose: 1-1.5 mg/kg. Second dose: 0.5-0.75 mg/kg.
- Return of Spontaneous Circulation (ROSC)**
- Pulse and blood pressure
 - Abrupt sustained increase in PETCO₂ (typically ≥40 mm Hg)
 - Spontaneous arterial pressure waves with intra-arterial monitoring
- Reversible Causes**
- Hypovolemia
 - Hypoxia
 - Hydrogen ion (acidosis)
 - Hypo-/hyperkalemia
 - Hypothermia
 - Tension pneumothorax
 - Tamponade, cardiac
 - Toxins
 - Thrombosis, pulmonary
 - Thrombosis, coronary

Pediatric Medical Protocols \$



Nebraska EMS Supplemental Protocols

CARDIAC ARREST – COVID-19 (Revised 5/4/2020) §

ALL LEVELS

- Follow current cardiac arrest algorithm with these special considerations

CARDIAC ARREST OF THE SUSPECTED OR CONFIRMED PEDIATRIC COVID-19 PATIENT

Adjustments to CPR algorithms in suspected or confirmed COVID-19 patients.

Reduce provider exposure:

- Don PPE before entering the room/scene
- Limit personnel
- Communicate COVID-19 status to any new providers

Prioritize oxygenation and ventilation strategies with lower aerosolization risk:

EMR

- Use a HEPA filter, if available, for all ventilation
- Consider passive oxygenation with non-rebreather face mask covered by a surgical mask as alternative to bag-mask device for short duration
- Minimize closed circuit disconnections

EMT and AEMT

- Intubate early with a cuffed tube, if possible
- Assign the provider intubating with highest chance of first-pass success to intubate
- Pause chest compressions to intubate
- Before intubation, use a bag-mask device (or T-piece in neonates) with a HEPA filter and a tight seal
- If intubation delayed, consider manual ventilation with a supraglottic airway or bag-mask device with a HEPA filter

EMT-I and Paramedic

- Intubate early with a cuffed tube, if possible, and connect to mechanical ventilator, when able
- Consider use of video laryngoscopy, if available

Telecommunication (Dispatch):

- Telecommunicators, consistent with local protocols, should screen all calls for COVID-19 symptoms (eg, fever, cough, shortness of breath) or known COVID-19 infection in the victim or any recent contacts, including any household members.
 - For lay rescuers, telecommunicators should provide guidance about risk of exposure to COVID-19 for rescuers and instructions for compression-only CPR, as above.
 - For EMS, telecommunicators should alert dispatched EMS teams to don PPE if there is any suspicion for COVID-19 infection.

Transport:

- Family members and other contacts of patients with suspected or confirmed COVID-19 should not ride in the transport vehicle.
- If return of spontaneous circulation (ROSC) has not been achieved after appropriate resuscitation efforts in the field, consider not transferring to hospital given the low likelihood of survival for the patient, balanced against the added risk of additional exposure to prehospital and hospital providers.

CARDIAC ARREST – MATERNAL AND NEONATAL (Revised 5/4/2020)

MATERNAL AND NEONATAL CONSIDERATIONS

Neonatal Resuscitation:

ALL LEVELS

- Every newly born baby should have a skilled rescuer prepared to resuscitate irrespective of COVID-19 status.
- The mother is a potential source of aerosolization for the neonatal team.
- Initial steps:
 - Routine neonatal care and the initial steps of neonatal resuscitation are unlikely to be aerosol-generating
 - Include drying, tactile stimulation, placement into a plastic bag or wrap, and assessment of heart rate.
- Suction:
 - Suction of the airway after delivery should not be performed routinely for clear or meconium-stained amniotic fluid.
 - Suctioning is an aerosol-generating procedure and is not indicated for uncomplicated deliveries.

EMT and AEMT

- Consider placement of pulse oximetry and electrocardiograph leads.

EMT-I and Paramedic

- Endotracheal medications:
 - Endotracheal instillation of medications, such as surfactant or epinephrine, are aerosol-generating procedures, especially via an uncuffed tube.
 - Intravenous delivery of epinephrine via a low-lying umbilical venous catheter is the preferred route of administration during neonatal resuscitation.

Maternal Cardiac Arrest:

- The cardiopulmonary physiological changes of pregnancy may increase the risk of acute decompensation in critically ill pregnant patients with COVID-19.
- Preparation for perimortem delivery, to occur after 4 minutes of resuscitation, should be initiated early in the resuscitation algorithm to allow the assembly of obstetrical and neonatal teams with PPE even if ROSC is achieved and perimortem delivery is not required.

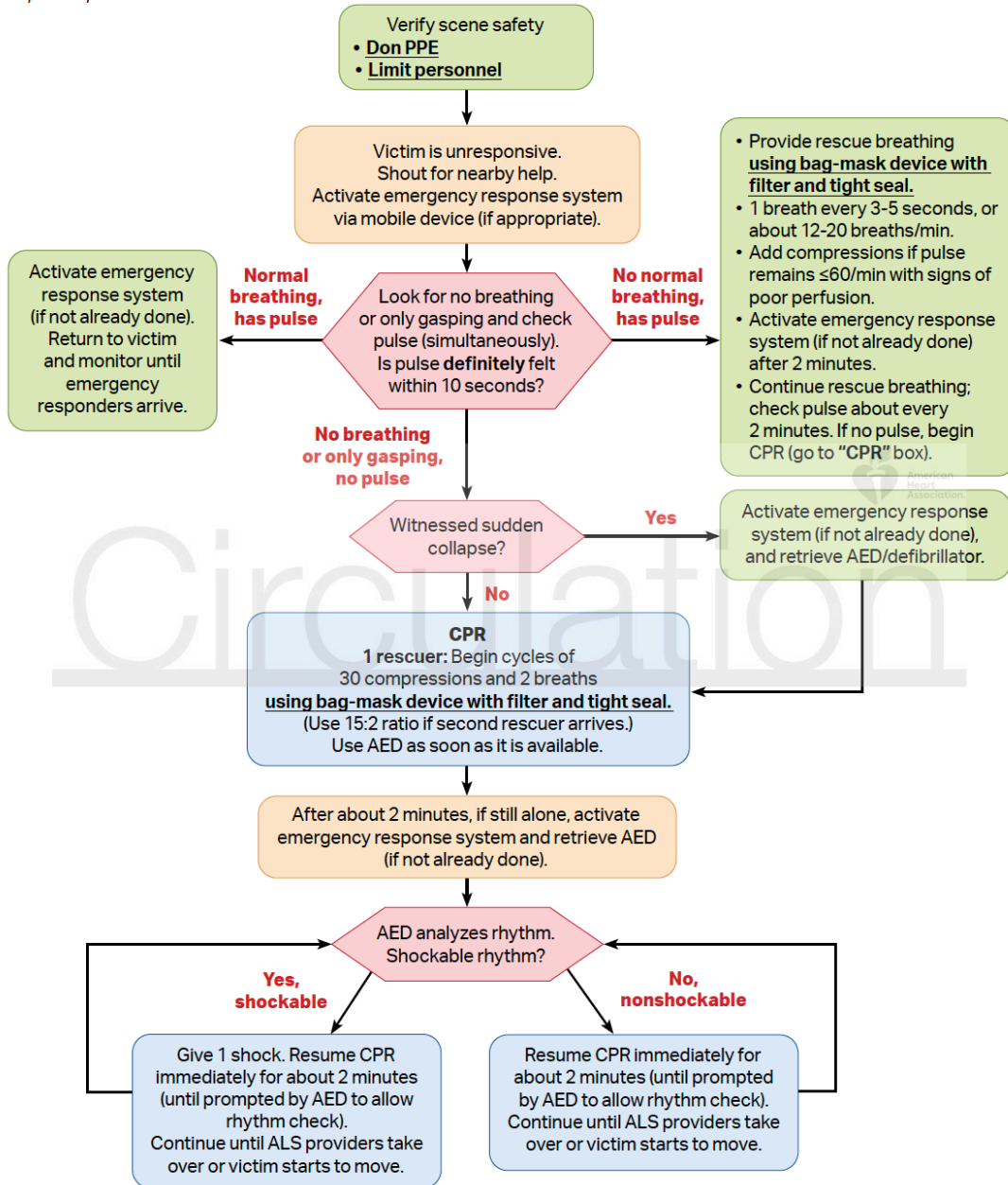
Nebraska EMS Supplemental Protocols

CARDIAC ARREST – CPR & AED (Revised 5/4/2020)

EMR – EMT - AEMT §

**BLS Healthcare Provider
Pediatric Cardiac Arrest Algorithm for the Single Rescuer
for Suspected or Confirmed COVID-19 Patients**

Updated April 2020



EMR Options If Approved

- Place patient on back/CPR board
- Initiate transport
- Call for intercept from backup service

EMT

- Place Patient On Back/CPR Board

EMT Options if Approved and AEMT

After First Cycle of CPR and Shock or No Shock

- Consider an advanced airway using above listed methods
- Consider IV access with normal saline or LR

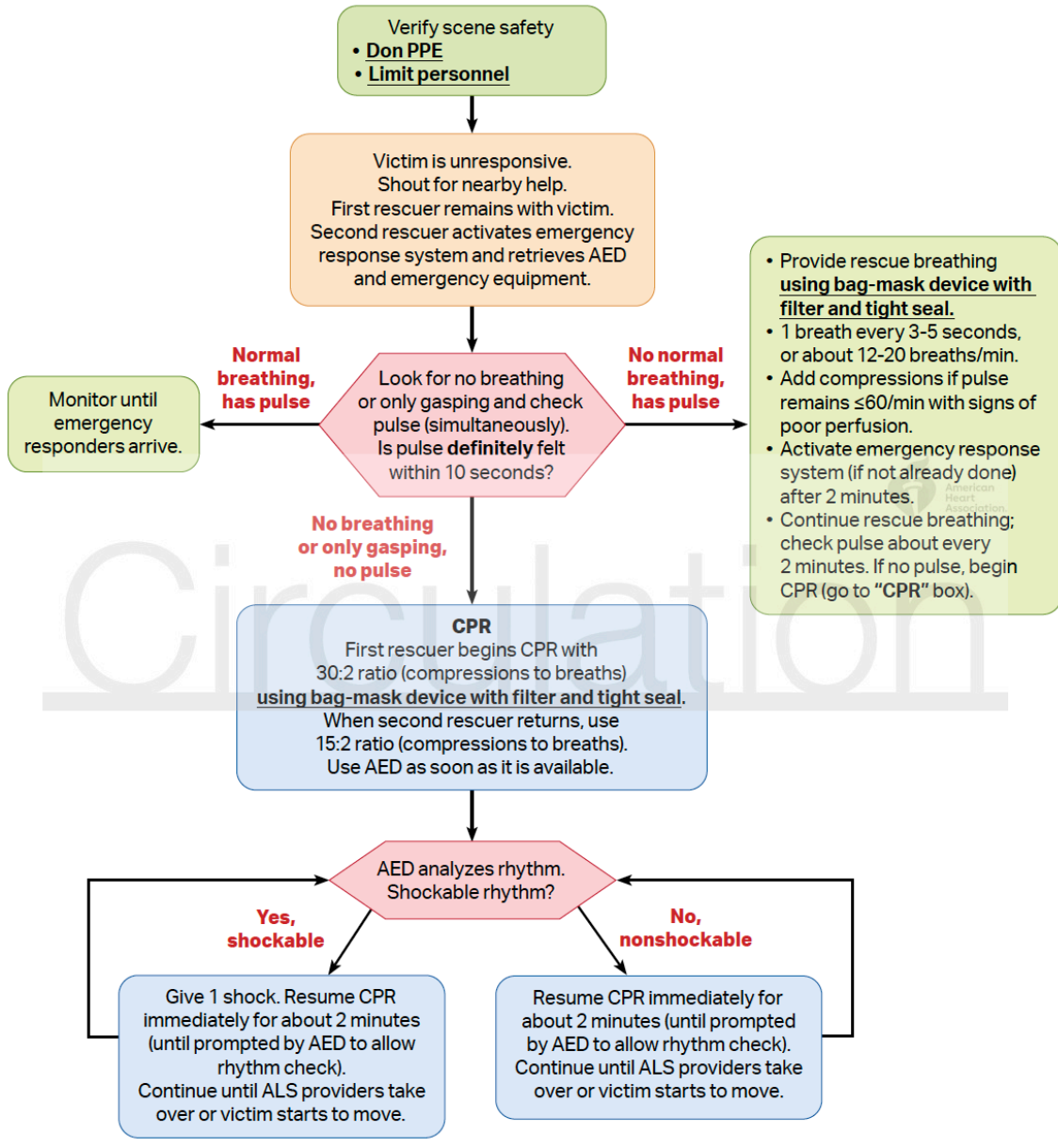
AEMT

- Consider IO access

Nebraska EMS Supplemental Protocols

BLS Healthcare Provider Pediatric Cardiac Arrest Algorithm for 2 or More Rescuers for Suspected or Confirmed COVID-19 Patients

Updated April 2020



EMR Options If Approved

- Place patient on back/CPR board
- Initiate transport
- Call for intercept from backup service

EMT

- Place Patient On Back/CPR Board

EMT Options if Approved and AEMT

After First Cycle of CPR and Shock or No Shock

- Consider an advanced airway using above listed methods
- Consider IV access with normal saline or LR

AEMT

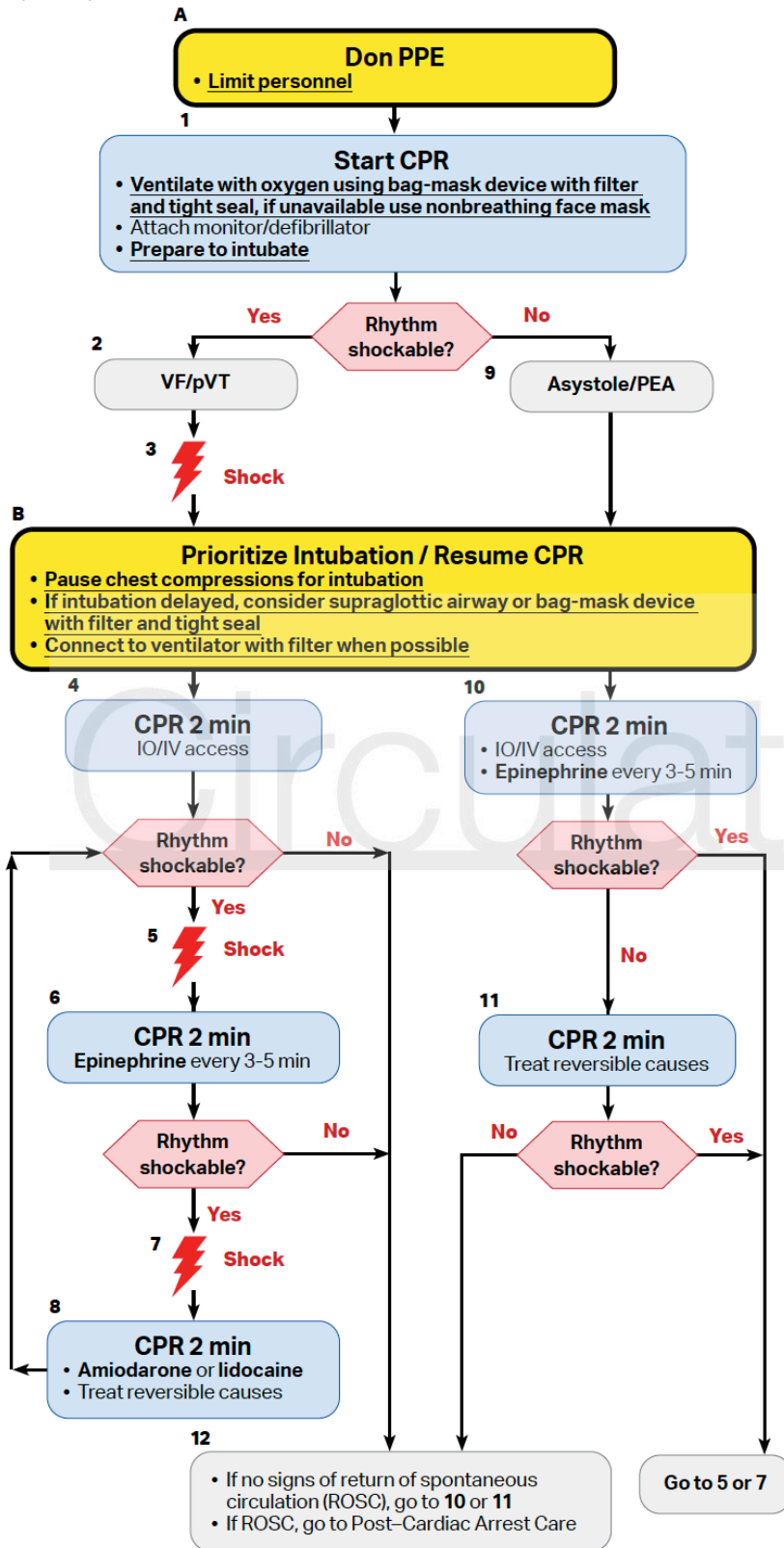
- Consider IO access

Nebraska EMS Supplemental Protocols
CARDIAC ARREST – ADVANCED CARDIAC LIFE SUPPORT (Revised 5/4/2020)

EMT-I and Paramedic

**Pediatric Cardiac Arrest Algorithm
 for Suspected or Confirmed COVID-19 Patients**

Updated April 2020



CPR Quality
<ul style="list-style-type: none"> • Push hard (≥1/3 of anteroposterior diameter of chest) and fast (100-120/min) and allow complete chest recoil. • Minimize interruptions in compressions. • Avoid excessive ventilation. • Change compressor every 2 minutes, or sooner if fatigued. • If no advanced airway, 15:2 compression-ventilation ratio.
Shock Energy for Defibrillation
First shock 2 J/kg, second shock 4 J/kg, subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose
Advanced Airway
<ul style="list-style-type: none"> • Minimize closed-circuit disconnection • Use intubator with highest likelihood of first pass success • Consider video laryngoscopy • Prefer cuffed endotracheal tube if available • Endotracheal intubation or supraglottic advanced airway • Waveform capnography or capnometry to confirm and monitor ET tube placement • Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions
Drug Therapy
<ul style="list-style-type: none"> • Epinephrine IO/IV dose: 0.01 mg/kg (0.1 mL/kg of the 0.1 mg/mL concentration). Repeat every 3-5 minutes. • Amiodarone IO/IV dose: 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT. or • Lidocaine IO/IV dose: Initial: 1 mg/kg loading dose. Maintenance: 20-50 mcg/kg per minute infusion (repeat bolus dose if infusion initiated >15 minutes after initial bolus therapy).
Return of Spontaneous Circulation (ROSC)
<ul style="list-style-type: none"> • Pulse and blood pressure • Spontaneous arterial pressure waves with intra-arterial monitoring
Reversible Causes
<ul style="list-style-type: none"> • Hypovolemia • Hypoxia • Hydrogen ion (acidosis) • Hypoglycemia • Hypo-/hyperkalemia • Hypothermia • Tension pneumothorax • Tamponade, cardiac • Toxins • Thrombosis, pulmonary • Thrombosis, coronary

Recent Updates \$

<u>Protocol Updated</u>	<u>Date Updated</u>	<u>Brief Description</u>	<u>Page Number</u>
Created	5/4/2020	Protocol created	

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