American Heart Association and International Liaison Committee of Resuscitation
Interim Guidance for Pediatric Basic and Advanced Life Support for Suspected or Confirmed COVID-19

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PBLS for 2 or More Rescuers - Interim Changes
Pediatric Cardiac Arrest - Interim Changes

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

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- **Don PPE**
  - Limit personnel

- **Start CPR**
  - Ventilate with oxygen using bag-mask device with filter and tight seal, if unavailable use nonbreathing face mask
  - Attach monitor/defibrillator
  - Prepare to intubate

- **Rhythm shockable?**
  - Yes
  - VF/pVT
  - Shock
  - Prioritize Intubation / Resume CPR
    - Pause chest compressions for intubation
    - If intubation delayed, consider supraglottic airway or bag-mask device with filter and tight seal
    - Connect to ventilator with filter when possible

- **No**
  - Asystole/PEA
  - CPR 2 min
    - IO/IV access
    - Epinephrine (0.01 mg/kg, 0.1 mL/kg of the 0.1 mg/mL concentration) as needed
  - CPR 2 min
    - IO/IV access

**CPR Quality**
- 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 ocult dose.

**Advanced Airway**
- 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 device advanced as a priority.
- Waveform capnography or capnometry to confirm and monitor ET tube placement.
- Once advanced airway in place, give 1 breath every 5 seconds (10 breaths/min) with continuous chest compressions.

**Drug Therapy**
- Epinephrine IO/IV dose: 0.01 mg/kg (0.1 mL/kg of the 0.1 mg/mL concentration) as needed.
What differs from the standard guidelines?

• **Don PPE**
• **HEPA filter** for all airway maneuvers
• **Intubate early** with a cuffed tube, connect to closed circuit **mechanical ventilator**, as soon as possible
• Intubator and technique with **highest chance of first-pass success**
• **Pause chest compressions to intubate**
• If intubation delayed, **consider supraglottic airway with tight seal**
• **No endotracheal tube medications**
What differs from the standard guidelines?

• If intubated at the time of arrest, consider leaving the patient on a mechanical ventilator

• Insufficient data to support or deny extracorporeal cardiopulmonary resuscitation (E-CPR) for COVID-19 patients

• Consider using mechanical CPR devices for adults and adolescents who meet height and weight criteria, if you are properly trained to use them
Mechanical CPR

LUCAS Device

LUCAS usage not restricted by patient weight.
Patients eligible for treatment:
- Sternum height of 6.7 to 11.9 inches / 17 to 30.3 cm
- Maximum chest width: 17.7 inches / 45 cm

AutoPulse Device

AutoPulse Operating Parameters:
Patient chest circumference permitted 29.9 to 51.2 in. (76 to 130 cm)
Patient chest width permitted 9.8 to 15 in. (25 to 38 cm) Maximum patient weight permitted 300 lbs.(136 kg)

Thumper CPR Device

Accommodates patients with sternum heights up to 14.5 in (36.8 cm), chest widths up to 22 in (55.9 cm)
Adjustable compression depth 0 – 8 cm
Does your ICU have access to a mechanical CPR device?
- Yes: 6/35 (17.1%)
- No: 29/35 (82.9%)

If yes, is it in-house or in a partner adult institution?
- In-house: 63.6%
- Adult partner: 36.4%

Data provided by Dana Niles and pediRES-Q
ILCOR Update

- [https://costr.ilcor.org](https://costr.ilcor.org)
- Covid-19 infection risk to rescuers from patients in cardiac arrest has been posted
- BLS: ILCOR Covid-19 insights and interim measures written and about to be posted
  - Focused on lay rescuers
  - CC only CPR adults
  - CC with rescue breaths if willing and able for infants and children (especially if child known to rescuer)
- Pediatric ALS Covid-19 next to be written