MEDICAL CARDIAC ARREST

Adult	Pediatric

Primary Direction

- In the absence of factors requiring rapid transport (e.g., unsafe scene), all attempts should be made to **perform resuscitative efforts on scene for a MINIMUM of 20 minutes or until ROSC is achieved**
- Movement and transport of patients interrupts CPR and prevents adequate depth and rate of compressions.

BLS

Provide High Performance CPR (See HP-CPR quick reference guide):
Continuous Chest Compressions rate of 100 - 120 per minute, allow for full chest recoil

- Avoid interruptions. Do not interrupt CPR to administer medications or procedures
- Use metronome to ensure proper rate

Automated External Defibrillator (AED) Follow AED prompts, shock if indicated

- Continue compressions while AED charges

Switch Compressors every 2 minutes

- Reassess pulse every 2 minutes during compressor switch
- Do not exceed 10 seconds during pause

<u>Once compressions and AED are deployed</u>

- **Passive Oxygenation**
  - OPA and bilateral NPAs
  - Non-rebreather mask 15 LPM

<u>With adequate personnel (≥ 3) or after 8 minutes of resuscitation*</u>

- **Ventilate BVM with 100% Oxygen**
  - 1 small volume ventilation on the up stroke of every 10th compression
    * *Consider earlier ventilations for pediatrics or if arrest has suspected respiratory cause*

Compression depth 2” - 2.4”	Compression depth of at least 1/3 the diameter of the chest size

ALS

Cardiac Monitor, Defib Pads, Waveform $EtCO_2$, Metronome, **IV Vascular Access when possible, humeral IO is preferred over tibia IO if IV attempt(s) unsuccessful or not feasible**, NG/OG Tube

Ventricular Fibrillation (VF)
Pulseless Ventricular Tachycardia (VT)

Manual Defibrillation on a 2-minute cycle

- Pre-charge the monitor at 1:45, continue compressions during charging
- Minimize perishock pause to less than 5 seconds
- Switch compressors during perishock pause

Adult	Pediatric
ALS ***cont.***	
Defibrillate using manufacturer recommended energy dose • Repeat every 2 minutes • Increase dose per manufacture recommendation **Epinephrine (1:10,000) 1 mg** IV/IO • Repeat every 3 - 5 minutes • No Max **Amiodarone 300 mg** (first dose) SIVP/IO • Repeat x1 in 3 - 5 minutes with **150 mg** • Flush with **NS 20 mL**	**Defibrillate** at **2 J/kg** • Repeat every 2 minutes at **4 J/kg** **Epinephrine (1:10,000) 0.01 mg/kg** IV/IO • Repeat every 3 - 5 minutes **Amiodarone 5 mg/kg** SIVP/IO • Max single dose 300 mg • May repeat x 1 in 3 - 5 minutes
Asystole **Pulseless Electrical Activity (PEA)**	
Address reversible causes based on applicable protocols	
Epinephrine (1:10,000) 1 mg IV/IO • Repeat every 3 - 5 minutes • No Max	**Epinephrine (1:10,000) 0.01 mg/kg** IV/IO • Repeat every 3 - 5 minutes • No Max
AIRWAY CONSIDERATIONS	
• A **BLS airway** is the preferred method of airway management during cardiac arrest unless advanced airway is indicated. • See Airway Management protocol for advanced airway management options	
CONSIDERATION IN PREGNANCY ≥ 20 WEEKS GESTATION	
• **Place patient 25° left lateral on backboard for CPR** • IV/IO should be above the diaphragm • Pregnant patients are more prone to hypoxia so oxygenation and airway management should be prioritized • Consider early Advance Airway i-gel® or ET Intubation • Do not interrupt CPR to perform procedures • **Prepare for early transport after 4 minutes of CPR**	

Adult	Pediatric

ALS *cont.*

Termination of Resuscitation (TOR)

Consider TOR in the following conditions*, after a minimum of 20 minutes of resuscitation

- Patient remains pulseless with no signs of cellular metabolism or neurological activity (e.g., unreactive pupils, EtCO2 < 10 mmHG, developing lividity)
- Persistent asystole, wide complex PEA < 40 BPM, or ventricular fibrillation

**Special Considerations*

- Consider transport if patient has persistent narrow complex PEA >100, or persistent V-Tach after 20 minutes of HP-CPR
- Consider pediatric transport after 2 - 3 rounds of on scene ALS interventions IF the cause of the arrest is suspected to be airway related

Direction

- EMS personnel shall not transport expired patients by ambulance except in the rare occurrence that a patient expires during transport. In these situations, EMS personnel shall continue resuscitative efforts and proceed with transport to the closest receiving facility.
- If resuscitative efforts are terminated, personnel shall confirm and document the patient's cardiac rhythm in 2 separate ECG Leads and provide printed rhythm strips of at least 15 second duration.
- Base Hospital Physician consultation should be obtained if EMS personnel have any patient care or scene safety concerns.
- This policy does not apply to Mass Casualty Incidents.
- Transmit Code Report via Physio Control Monitor – Required for all cardiac arrests