CARDIAC ARREST (ATRAUMATIC)

ADULT	PEDIATRIC (≤34 KG)
BLS Procedures	

• Universal Algorithm #601
• High Performance CPR (HPCPR) (10:1) per Procedure #712
  • Continuous compressions with 1 short breath every 10 compressions
• AED application (if shock advised, administer 30 compressions prior to shocking)
• Pulse Oximetry
  • O_2 administration per Airway Management Protocol #602
	• Same as Adult
	• CPR compression to ventilation ratio
	  • Newborn - CPR 3:1
	  • Neonate - 1 day to 1 month – CPR 15:2
	  • >1 month – HPCPR 10:1
	• AED – pediatric patient >1 year
	• Use Broselow tape or equivalent if available

ALS Procedures	

Rhythm analysis and shocks
• At 200 compressions begin charging the defibrillator while continuing CPR
• Once fully charged, stop CPR for rhythm analysis
• **Defibrillate V-Fib/Pulseless V-tach –** Shock at the maximum manufacturer setting and immediately resume CPR. Subsequent shocks will also be at the maximum manufacturer setting.
• After 3rd shock, pt remains in refractory V-Fib or V-Tach, consider vector change defibrillation. (See notes)
• **No shock indicated** – dump the charge and immediately resume CPR
 	
V-Fib/Pulseless V-Tach and Non-shockable Rhythms
• **Epinephrine 1:10,000** 1mg IV/IO repeat every 3-5 min
  • Do not give epinephrine during first cycle of CPR
 	
V-Fib/Pulseless V-Tach
• **Amiodarone** 300mg IV/IO push; if rhythm persists after 5 min, administer 150mg IV/IO push refractory dose.
 	
ROSC with Persistent Hypotension
• Push-Dose Epinephrine 10 mcg/ml 1ml IV/IO every 1-3 min
	• **<u>Emphasize resuscitation and HPCPR rather than immediate transport</u>**
	
	Rhythm analysis and shocks
	• Coordinate compressions and charging same as adult
	• **Defibrillate V-Fib/Pulseless V-Tac**h – shock at 2 J/kg and immediately resume CPR
	  • Subsequent shock, after 2 mins of CPR: 4J/kg
	  • Recurrent V-Fib/Pulseless V-tach use last successful shock level
	• **No shock indicated –** dump the charge and immediately resume CPR
	
	V-Fib/Pulseless V-Tach and Non-shockable Rhythms
	• **Epinephrine 1:10,000** 0.01 mg/kg (0.1 ml/kg) IV/IO not to exceed 0.3mg, repeat every 3-5 min
	  • Do not give epinephrine during first cycle of CPR
	
	V-Fib/Pulseless V-Tach
	• **Amiodarone** 5mg/kg IV/IO push; repeat every 5 min to a max of 15mg/kg.
	
	• **ROSC with HR < 60**; 1 round of CPR and reassess (No EPI 1:10,000 unless pulseless)

• Repeat as needed titrated to SBP >90mmHg • See notes for mixing instructions *OR* • Epinephrine Drip start at 10 mcg/min IV/IO infusion • Consider for extended transport • See formulary for mixing instructions	
Base Hospital Orders Only	
Contact STEMI Receiving Center (French Hospital) • Refractory V-Fib or V-Tach not responsive to treatment • Request for a change in destination if patient rearrests en route • Termination orders when unresponsive to resuscitative measures • As needed **Contact the appropriate Base Station per Base Station Report Policy #121**- Atraumatic cardiac arrest due to non-cardiac origin (OD, drowning, etc.)	Contact closest Base Hospital for additional orders **ROSC with Persistent Hypotension for Age** • **Push-Dose Epinephrine 10 mcg/ml** 1 ml IV/IO (0.1 ml/kg if <10kg) every 1-3 min • Repeat as needed titrated to age appropriate SBP • See notes for mixing instructions ***OR*** • **Epinephrine Drip** start at 1 mcg/min, up to max of 10 mcg/min IV/IO infusion • Consider for extended transport • See formulary for mixing instructions • As needed
Notes	
• **Mixing Push-Dose Epinephrine 10 mcg/ml (1:100,000):** Mix 9 ml of Normal Saline with 1 ml of **Epinephrine 1:10,000**, mix well. • Use manufacturer recommended energy settings if different from listed. • Assess for reversible causes: tension PTX, hypoxia, hypovolemia, hypothermia, hyperkalemia, hypoglycemia, overdose. • Vascular access – IV preferred over IO – continue vascular access attempts even if IO access established). • Consider Oral Intubation or Supraglottic Airways (Adults), provider discretion. • If the provider cannot accomplish an ALS airway, they should document in the PCR why an ALS airway wasn't accomplished. • Once an SGA has been placed, it should not be removed for an ETI. • Stay on scene to establish vascular access, provide for airway management, and administer the first dose of epinephrine followed by 2 min of HPCPR. • Adult ROSC that is maintained:	

- Obtain 12-lead ECG and vital signs.
- Transport to the nearest STEMI Receiving Center ***regardless of 12-lead ECG reading***.
- Maintain O2 Sat greater than or equal to 94%.
- Monitor ETCO2
- Termination for patients > 34 kg – Contact SRC (French Hospital) for termination orders.
- If the patient remains pulseless and apneic following 20 minutes of resuscitative measures, with persistent ETCO2 values < 10 mmHg, consider termination of resuscitation.
- Documentation shall include the patient's failure to respond to treatment and of a non-viable cardiac rhythm (copy of rhythm strip).
- Contact and transport to the nearest Base Hospital.
- Receiving Hospital shall provide medical direction/termination for pediatric patients.
- Lidocaine may be substituted for Amiodarone with SLOEMSA authorization (via Policy #205 Attachment C) when Amiodarone stock is unavailable. Refer to Lidocaine Formulary for dosages.
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- While treating Cardiac Arrest, only one antiarrhythmic may be given to one patient. ALS providers shall not switch between Amiodarone and Lidocaine for the treatment of Cardiac Arrest.
- **Vector change defibrillation**: The two pad placements are anterior-lateral and anterior-posterior. Vector change is the change in pad position placement from one to the other.