Base Hospital Contact Required. ❶

1. For patients meeting Ref. 814 Section I criteria for determination of death in the field – document DOA – Obvious Death

2. Assess airway and initiate basic airway maneuvers (MCG 1302)

3. Assist respirations with bag-mask-ventilations (BMV) using high-flow Oxygen 15L/min Squeeze bag just until chest rise and then release; state “Squeeze, release, release" to avoid hyperventilation ❷

4. For suspected foreign body (no chest rise with BMV): ❸ Perform direct laryngoscopy and use pediatric Magill forceps to remove visible obstruction(s)

5. Initiate chest compressions at a rate of 100-120 compressions per minute with a compression to ventilation rate of 15:2 ❹❼

6. Initiate cardiac monitoring (MCG 1308) Briefly assess rhythm every 2 minutes, minimizing pauses, or continuously via rhythm display technology ❺❼

7. Establish vascular access (MCG 1375) ❽

8. CONTACT BASE concurrent with ongoing management

ASYSTOLE/PEA

9. Epinephrine (0.1mg/mL) 0.01mg/kg IV/IO, dose per MCG 1309 May repeat every 3-5 min, maximum single dose 1mg ❹

10. Consider and treat potential causes ❼

11. Normal Saline 20mL/kg IV/IO per MCG 1309 May repeat x2

V-FIB/PULSELESS V-TACH

12. Defibrillate at 2J/kg, dose per MCG 1309 Repeat at 4J/kg at each 2-minute cycle as indicated

13. Epinephrine (0.1mg/mL) 0.01mg/kg IV/IO, dose per MCG 1309 Begin after second defibrillation ❼ May repeat every 3-5 min, maximum single dose 1mg

14. For persistent or recurrent V-Fib/V-Tach without pulses: Amiodarone (50mg/mL) 5 mg/kg IV/IO, dose per MCG 1309
RETURN OF SPONTANEOUS CIRCULATION

15. Establish advanced airway prn

16. Raise head of stretcher to 30 degrees if blood pressure allows, otherwise maintain supine

17. Continue ventilation at 10-20 breaths per minute

18. For SBP < 70mmHg:
   Normal Saline 20mL/kg IV/IO rapid infusion per MCG 1309
   Repeat x1 for persistent poor perfusion

   If no response after Normal Saline 20mL/kg, or worsening hypotension and/or bradycardia:
   Push-dose Epinephrine – mix 9mL Normal Saline with 1mL Epinephrine (0.1mg/mL) IV formulation in a 10mL syringe; administer Push-dose Epinephrine (0.01mg/mL) per MCG 1309 every 1-5 minutes as needed to maintain SBP > 70mmHg

19. Check blood glucose
   For blood glucose < 60mg/dL
   Dextrose 10% 5mL/kg IV/IO per MCG 1309

20. For suspected narcotic overdose:
   Naloxone (1mg/mL) 0.1mg/kg IM/IN/IO/IV, dose per MCG 1309
SPECIAL CONSIDERATIONS

1. EMS Personnel are mandated reporters of child abuse and neglect, and a report should be made when suspected as per Ref. 822. Communicate suspicion for child abuse and/or neglect to accepting ED staff when home suggests children could be at risk for harm (e.g., unkept home, evidence of drug or alcohol abuse, unsafe living conditions, known or suspected domestic violence), when the history does not match with the severity of physical findings (e.g., child posturing after a roll off the couch), when patterned injury or burns or noted (e.g., circular burns as from a cigarette, whip marks on the skin, burns of both hands or feet), or when child reports physical or sexual abuse. Children < 3 years of age and those with developmental delay are at increased risk of abuse. This must also be accompanied by notification to the Department of Children and Family Services (DCFS).

2. Bag-mask ventilation (BMV) is the preferred method of airway management during cardiac arrest resuscitation and has been associated with improved patient outcomes. Advanced airway placement should be deferred until after return of spontaneous circulation (ROSC).

3. Children < 3 years of age are at high risk for foreign body aspiration. Foreign body aspiration should be suspected if there is a history of possible aspiration or when there is no chest rise with BMV after repositioning of the airway.

4. Maintaining perfusion with continuous high-quality CPR throughout resuscitation is essential to ensuring good patient outcome. Chest compressions are the most important aspect of cardiac arrest resuscitation. Maintaining continuous chest compressions should take priority over any medication administration or transport.

5. Hyperventilation reduces venous return and worsens patient outcomes. Both continuous and interrupted (15:2) compressions/ventilations are acceptable. Regardless of ventilation method used, ventilations should be no more frequent than 10 per minute with a volume just enough to see chest rise.

6. If you are able to observe the underlying rhythm during compressions via rhythm display technology, do not pause for the rhythm check.

7. ETCO₂ should be > 10 with a “box-shaped” waveform during effective CPR. A flat or wavy waveform or ETCO₂ < 10 may indicate ineffective compressions or airway obstruction. A sudden increase in ETCO₂ is suggestive of ROSC. The waveform can also be used to confirm ventilation rate if an advanced airway or asynchronous ventilation with continuous compressions is used.

8. Peripheral venous access may be difficult to obtain in infants and small children. Consider IO placement as primary vascular access in patients for whom venous access is unlikely to be achieved rapidly. For older children, make two attempts at venous access and, if unsuccessful, place and IO for vascular access.

9. Epinephrine may improve outcomes if given early in non-shockable rhythms, but can worsen outcomes early in shockable rhythms, where defibrillation is the preferred initial treatment.
Potential causes that can be treated in the field include hypoxia, hypovolemia, hyperkalemia, hypothermia, toxins, and tension pneumothorax. Hypoxia and Hypovolemia are common causes of PEA arrest in children. Hypoglycemia is a very rare cause of cardiac arrest and should not be assessed until after ROSC.

Post cardiac arrest patients are at high risk for re-arrest during transport. Fluid resuscitation, vasopressor support, and avoidance of hyperventilation are recommended to decrease the risk of re-arrest.

ETCO$_2$ can help guide your ventilation rate; target ETCO$_2$ 35-40 mmHg. Just after ROSC, the ETCO$_2$ may be transiently elevated. This will decrease appropriately with ventilation and does not require hyperventilation to normalize. Persistently elevated ETCO$_2$ and/or “sharkfin” waveform may indicate respiratory failure as cause of the cardiac arrest. Falsely low ETCO$_2$ measurements can occur if there is a leak with BMV or shock.

In the ROSC patient, BMV is preferred method for ventilation; in a patient longer than the Broselow tape or > 40 kg body weight ETT is strongly preferred to King LT placement.

Push-dose Epinephrine is appropriate for non-traumatic shock including cardiogenic shock. Additional doses beyond 10mL may need to be prepared for prolonged transports. For patients < 10kg, transfer the diluted Push-dose Epinephrine to a smaller (1mL or 3mL) syringe in order to administer the dose accurately.

In pediatric patients post-arrest hypoglycemia should be treated with Dextrose 10% half-the dose delivered (2.5 mL/kg) and then blood glucose rechecked, and if measured glucose > 60 mg/dL no additional dextrose should be delivered.

If the rechecked blood glucose is < 60 mg/dL then administer an additional Dextrose 10% 2.5 mL/kg IV/IO; Hyperglycemia > 180 mg/dL should be avoided to optimize outcome.

Narcotic overdose should be suspected in cases where there is drug paraphernalia on scene or there is a witness report. Pinpoint pupils may be present, but hypoxia during cardiac arrest more often causes mydriasis (dilated pupils) instead.