Contra Costa County Emergency Medical Services

Pediatric Cardiac Arrest

History
- Code status (DNR or POLST)
- Events leading to arrest
- Estimated downtime
- Prior resuscitation attempts
- Past medical history
- Medications
- Existence of terminal illness
- Suspected physical abuse

Signs and Symptoms
- Unresponsive
- Apneic
- Pulseless

Differential
- Respiratory failure (foreign body, secretions, infection)
- Hypovolemia (dehydration)
- Hypothermia
- Hypertension
- Congenital heart disease
- Trauma
- Tension pneumothorax, cardiac tamponade, or PE
- Toxin or medication
- Electrolyte abnormalities (glucose, potassium)
- Acidosis

Criteria for death/no resuscitation
- Review DNR/POLST form

Newly born <31 days old
- Begin chest compressions
  - Use 3:1
  - Children 1 month to 8 years, use 15:2
  - Children over 8 years, use 30:2
  - Push hard (1.5 inches Infant / 2 inches Children) and fast (100-120/min)
  - Use metronome to ensure proper rate
  - Change compressors every 2 minutes
  - (Limit changes/pulse checks to < 5 seconds)

ALS available?
- Yes
  - Apply AED if available
  - Cardiac monitor
  - EtCO₂ monitoring
  - Shockable rhythm?
    - Yes
      - Automated defibrillation
      - Continue CPR
        - 5 cycles over 2 minutes
        - Repeat and assess
      - Follow Pediatric Asystole/PEA and Airway TGs as indicated
      - Follow Pediatric VF/VT Tachycardia and Airway TGs as indicated
    - No
      - Basic airway procedure
      - Not notify receiving facility. Contact Base Hospital for medical direction, as needed.

- No
  - Begin chest compressions

AT ANY TIME
- Return of spontaneous circulation
  - Go to Post Resuscitation TG

Decomposition
- Rigor mortis
- Dependent lividity

Injury incompatible with life or traumatic arrest with asystole
- Do not begin resuscitation
- Follow Policy 1004 – Determination of Death

Eoretical Jan. 2020
Pearls

- Efforts should be directed at high quality chest compressions with limited interruptions and early defibrillation when indicated. Compress 1.5 inches in infants and 2 inches in children. Consider early IO placement if available or direct IV access if anticipated.
- DO NOT HYPERVENTILATE.
- Do not delay chest compressions while applying any device or intervention.
- In cases of clear-cut traumatic arrest, epinephrine is not indicated in PEA or asystole. Epinephrine will not correct arrest caused by a tension pneumothorax, cardiac tamponade, or hemorrhagic shock. If there is any doubt as to the cause of arrest, treat as a non-traumatic arrest.
- Use a metronome during chest compression to ensure proper rate.
- Airway is a more important intervention in pediatric arrests. This should be accomplished quickly with a BVM and appropriately sized mask. Patient survival is often dependent on proper ventilation and oxygenation.
- Resuscitation is based on proper planning and organized execution. Procedures require space and patient access. Make room to work. Utilize team focused approach assigning responders to predetermined tasks.
- Prevent hypothermia by moving to a warm environment and avoid unnecessary exposure.