

**SECTION: C-1**

**PROTOCOL TITLE: ADULT CARDIAC/RESPIRATORY ARREST**

**REVISED: 15 April 2006**

**GENERAL COMMENTS:** Attention to “the basics” during cardiac arrest is of equal importance as ALS drug therapies.

**BLS SPECIFIC CARE:**

- *For unwitnessed arrest:* Consider 2 minutes of good, sustained, and effective CPR prior to defibrillation or AED attachment.
- *For witnessed Arrest,* or after 2 minutes of good, effective and sustained CPR: AED use per 2005 AHA guidelines and manufacturer recommendations.
  - Single shocks are recommended to reduce interruption of CPR.
- When possible, reduce interruptions of chest compressions.
- When VF/pulseless ventricular tachycardia (VT) is present, deliver 1 shock and *immediately* resume CPR, beginning with chest compressions. *Do not delay resumption of chest compressions to recheck the rhythm or pulse.*
- After 5 cycles (about 2 minutes) of CPR, analyze the cardiac rhythm and deliver another shock if indicated. If a non-shockable rhythm is detected, resume CPR immediately.
- Careful use of BVM, airway adjuncts, and CONTINUOUS Sellicks maneuver to reduce/prevent aspiration. Ventilations should occur over 1-2 seconds.
- Avoid hyperventilation/hyperinflation.
- Notify responding ALS unit ASAP.

**ILS SPECIFIC CARE:**

- Combitube as appropriate.
- Obtain peripheral vascular access.
  - IV: 200-500 cc crystalloid solution. Repeat PRN.

**ALS SPECIFIC CARE:**

- Advanced airway management as appropriate.
- Rhythm specific therapy (*see appropriate protocols*).
- Epinephrine
  - IV: 1 mg IVP every 3-5 minutes, or
  - ETT: 2-2.5 mg of 1:1,000 diluted to 8-10 cc every 3-5 minutes. Consider underlying causes of cardiac arrest and treat as well.

*Consider as appropriate:*

- Sodium Bicarbonate for suspected acidosis, suspected hyperkalemia, or prolonged resuscitation.
  - IV: 1 meq/kg repeated in 10 minutes (if still in arrest) at 0.5 meq/kg. Minimum initial dose is 50 meq. Follow TCA recommendations if TCA OD is suspected.

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- Calcium Chloride for suspected hyperkalemia, Calcium Channel Blocker OD, or suspected hypocalcemia.
  - 500-1000 mg IVP.
  - Also administer Sodium Bicarbonate at 1 meq/kg afterward. *Flush line thoroughly between meds.*
- Albuterol Sulfate (High Dose) for Suspected Hyperkalemia.
  - ETT: 10 mg (4 unit doses) directly instilled into the ETT followed by brief hyperventilation.
- Narcan (Naloxone) for suspected narcotic overdose.
  - IV/ETT: 2 mg repeated PRN.
- Dextrose 50% for hypoglycemia.
  - IV: 12.5-50 g

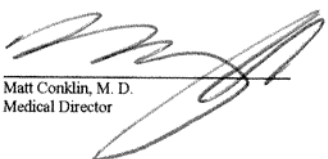
**PHYSICIAN PEARLS:** Outside of the Comfort One/DNR situations (appendix X), once ALS intervention is initiated, medical control should be called prior to ceasing efforts. In addition, BLS interventions, an advanced airway, and at least 10 minutes of rhythm appropriate therapy should have been performed prior to considering termination of efforts.

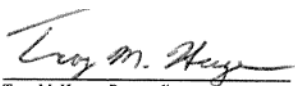
The American heart Association (AHA) 2005 guidelines for CPR and Emergency Cardiac Care recommends:

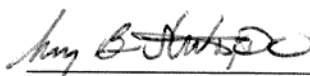
- Good, sustained, and effective CPR. **“Push hard and fast”**.
- **Sustained coronary perfusion is believed essential for the heart to respond to defibrillation, any interruption in compressions should be minimized or avoided.** Even brief interruptions of compressions (such as seen in the pause for ventilations or defibrillation) result in a rapid decrease of coronary perfusion.
- Change to a 1-shock protocol. Frequent or long interruptions in precordial chest compressions for rhythm analysis or rescue breathing were associated with post resuscitation myocardial dysfunction and **reduced survival rates**. The AHA notes that: *“...if 1 shock fails to eliminate VF, the incremental benefit of another shock is low, and the resumption of CPR is likely to confer a greater value than another shock.”* Therefore when a shockable rhythm is found, **only one shock, instead of three stacked shocks, is recommended.**

**ETT vs. Central Venous Access.** The AHA notes that *“...administration of atropine and epinephrine by the IV route was associated with a higher rate of ROSC and survival to discharge than administration of the drugs by the endotracheal route”*.

**Therefore, while ETT administration of drugs in cardiac arrest is not prohibited, central venous access is encouraged when peripheral venous access is unsuccessful.**

  
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