ACLS Update
Department of Medicine Morning Report
July 18 and August 15, 2005

Case 1

A 51 year old female is admitted to 11 East with a CC of fevers, weight loss, and night sweats. She has a current history of heroin and cocaine abuse and "someone" has placed her on a morphine PCA with a basal rate of 4 mg/hour, and a bolus amount of 2 mg with a 6-minute lockout.

The nurse pages you and tells you that the patient is drowsy, with a respiratory rate of 7 breaths/minute and a room air pulse ox of 89%

You respond and see…

Case 2

While walking through the ER to work up your next admission, you hear a nurse scream "Help!" Pulling back the curtain, you notice…

Case 3

You respond with the Code Team to an arrest in the SICU. As the first-arriving physician you're in charge. The nurses are asking for orders. The monitor shows…

Case 1

1. What individuals comprise the adult arrest team?
   1. Medical Resident 2. Anesthesia Resident 3. SAO

   4. Resp Ther Adult 5. Resp Lead Ther. 6. Nursing Coordinator

   7. Pastoral Care 8. Critical Care Unit RN 9. Pharmacist (Days M-F)

2. What number do you call to request a code?: 8-2911

3. How about anesthesiology?: 8-2911

4. When you page anesthesiology, you need to provide what information?
   a. adult or peds needed b. location c. two-word description of issue

5. Upon review of the resuscitation records, a common mistake noted when a nonintubated patient arrests is: not calling anesthesia promptly

6. Upon review of the resuscitation records, a common mistake noted when an intubated patient arrests is: not confirming tube placement with $EtCO_2$ and/or auscultation.

7. What are the responsibilities of the Code Team leader?

   a. Identifies self as leader; dismisses those not needed

   b. Directs code – resource to Attending physician or other service

   c. Gets initial report/history from nurses and/or house staff

   d. Releases team members not needed; prioritizes response to a 2nd simultaneous code

   e. Disposition/Stays with patient during transport

   f. Signs Resuscitation Record/writes note in progress notes

   g. Contacts Attending/family/ME

8. Optimal compression rate? 100 Rotate compressors Q 3 min

Case 2

1. The initial three defibrillations should be delivered at what energy levels?: 200, 200-300, 360

2. Concerning vasopressors

DRUG	Initial Dose	Dosing Interval	Subsequent Dose	Max Dose
Epinephrine	1 mg	Q 3-5 min	1 mg	None
Vasopressin	40 units	One-time only	epi 1 mg Q3-5 min	Single dose of 40 units

3. Epinephrine goes "down the tube" at a dose of 2-2.5 mg

4. After the first three shocks, subsequent shocks are delivered at an energy level of 360 joules

5. Concerning antiarrhythmics

"c" is the CORRECT answer

   a. Definitely shown to be of value
   b. Amiodarone works, others are worthless
   c. "Thanks for the pen, but I'll take electricity any time"

6. About those antiarrhythmics

Drug	Amiodarone	Lidocaine	Magnesium Sulfate	Procainamide
Indication	VF/VT	VF/VT	Torsades; hypomag	RECURRENT VF/VT
Initial Dose	300 mg	1.5 mg/kg	1-2 Gm slow IV	17 mg/kg; 12 mg/kg if cardiac/renal dis.
Dosing Interval	3-5 min	3-5 min		infuse at up to 50 mg/min
Subsequent Dose	150 mg	1.5 mg/kg		
F/U Drip Rate	1 mg/min x 6 hr 0.5 mg/min x 18 hr	1-4 mg/min	0.5-1 Gm/ hour	1-4 mg/min

Case 3

1. PEA/Asystole have 10 common causes, 5 H's and 5 T's

   1. Hypoxia
   2. Hypothermia
   3. Hypovolemia
   4. H^+ (Acidosis)
   5. Hypo-/Hyperkalemia
   6. Tablets ("us" or "them")
   7. Tamponade, Cardiac
   8. Tension Pneumothorax
   9. Thrombus, Coronary (MI)
   10. Thrombus, Pulmonary (PE)

2. OK, you're experienced. Go for two more

   11. Hypo-/Hyperglycemia
   12. Trauma

3. A basic philosophical difference between V Fib/pulseless VT arrests and PEA/Asystole arrests is treat the rhythm vs. find and treat the cause

4. Clues to the cause of a PEA/Asystole arrest can be found in labs, MAR, CXR, I/O, S/P procedure, "alone time" with medical student, visitor, etc.

5. For asystole, all patients get epinephrine & atropine; pacing is optional.

6. For PEA, all patients get epinephrine; some get atropine depending on the heart rate (>60 or <60).

7. About atropine in PEA/Asystole

   Dose 1 mg every 3-5 min to a max of 0.04 mg/kg.

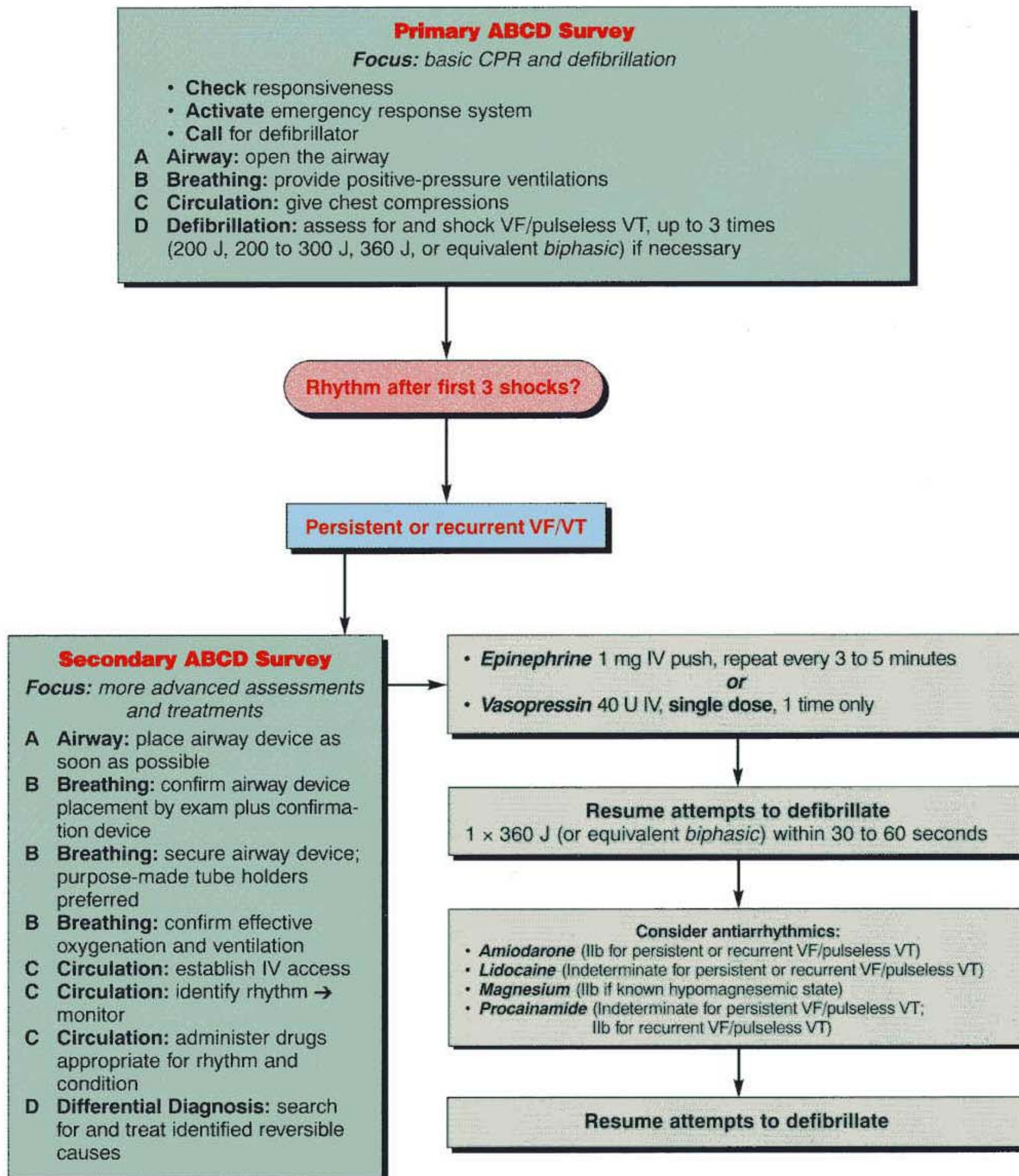
8. For a PEA/Asystole arrest, the code note should document a search for, and treatment of, the cause.

9. What is FWR? Family-Witnessed Resuscitation.

Ventricular Fibrillation/ Pulseless Ventricular Tachycardia (VF/VT) Algorithm

American Heart Association®
Fighting Heart Disease and Stroke

Adult Advanced Cardiovascular Life Support



Pulseless Electrical Activity Algorithm

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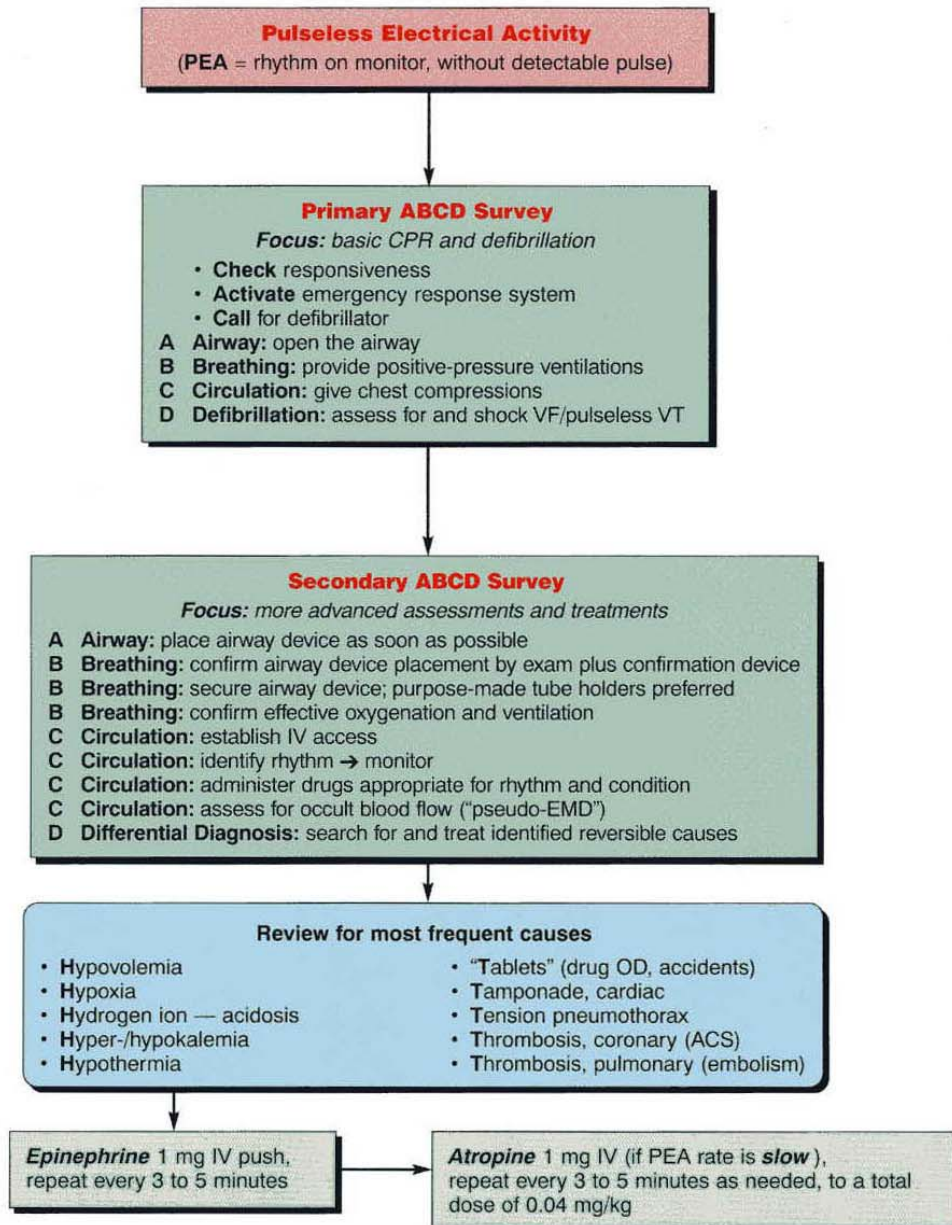

Asystole

Primary ABCD Survey

Focus: *basic CPR and defibrillation*

Rapid scene survey: *is there any evidence that personnel should* ***not*** *attempt resuscitation (eg, DNAR order, signs of death)?*

- **Check** responsiveness
- **Activate** emergency response system
- **Call** for defibrillator

A **Airway:** open the airway
B **Breathing:** provide positive-pressure ventilations
C **Circulation:** give chest compressions
C **Confirm** true asystole
D **Defibrillation:** assess for VF/pulseless VT; shock if indicated

Secondary ABCD Survey

Focus: *more advanced assessments and treatments*

A **Airway:** place airway device as soon as possible
B **Breathing:** confirm airway device placement by exam plus confirmation device
B **Breathing:** secure airway device; purpose-made tube holders preferred
B **Breathing:** confirm effective oxygenation and ventilation
C **Circulation:** confirm true asystole
C **Circulation:** establish IV access
C **Circulation:** identify rhythm → monitor
C **Circulation:** give medications appropriate for rhythm and condition
C **Circulation:** assess for occult blood flow ("pseudo-EMD")
D **Differential Diagnosis:** search for and treat identified reversible causes

Transcutaneous pacing:
If considered, perform immediately

Epinephrine 1 mg IV push,
repeat every 3 to 5 minutes

Atropine 1 mg IV,
repeat every 3 to 5 minutes
up to a total of 0.04 mg/kg

Asystole persists
Withhold or cease resuscitative efforts?

- Consider quality of resuscitation?
- Atypical clinical features present?
- Support for cease-efforts protocols in place?