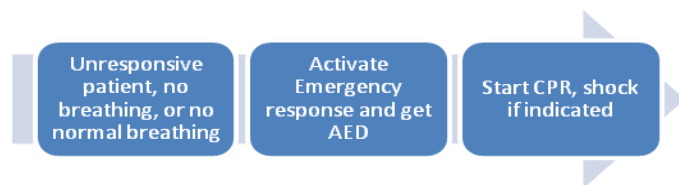


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Mandatory Precourse Self-Assessment at least 70% pass. Bring proof of completion to class.

The ACLS Provider exam is 50 multiple-choice questions. Passing score is 84%. Student may miss 8 questions. All AHA exams are now "open resource" so student may use books and/or handouts for the exam. For students taking ACLS for the first time or updating/ renewing students with a current card, exam remediation is permitted should student miss more than 8 questions on the exam. Viewing the ACLS Provider Manual ahead of time with the online resources is very helpful. The American Heart Association link is www.heart.org/eccstudent and has an ACLS Precourse Self-Assessment, supplementary written materials, and videos. The code for these online resources is in the ACLS Provider Manual page ii. **The code is acs15.** Basic Dysrhythmia knowledge is required. The exam has at least 9 strips to interpret. **The course is a series of video segments then skills. The course materials will prepare you for the exam.**

BLS Overview – CAB



Push Hard and Fast - Repeat every 2 minutes
*If person unresponsive next step is to check breathing and pulse simultaneously. Pulse check no more than 5-10 seconds

Anytime there is no pulse or unsure -
COMPRESSIONS

Elements of good CPR

COMPRESSIONS

- Rate-at least 100 - 120
- Compression depth at least 2 inches, not more than 2.4 inches or 6 cm
- Switch compressors every 2 min or 5 cycles
- Minimize interruptions (less 10 secs)
- Fatal mistake to interrupt compressions – continue compress while charging

RECOIL

VENTILATION

- With perfusing rhythm squeeze the bag once every 5 to 6 seconds
- Excessive ventilation decreases cardiac output

Stroke

- Cincinnati Pre-Hospital Stroke Scale
- Facial Droop, Arm Drift, Abnormal Speech
- Non-contrast CT scan of the head
- Start fibrinolytic therapy as soon as possible
- Alerting the hospital will expedite patient's care on arrival

Acute Coronary Syndromes, STEMI

*STEMI door-to-balloon within 90 minutes

*12 Lead for CP, epigastric pain, or rhythm change

Recommended dose of aspirin is 160 – 325 mg

Right ventricular MI - caution with NTG

Cardiac Rhythm Strips to Interpret

- Ventricular Tachycardia
 - Stable
 - Unstable
 - Monomorphic
- Supraventricular tachycardia, unstable
- Heart Blocks
 - Second-degree atrioventricular Type I
 - Second-degree atrioventricular Type II
 - Third degree atrioventricular
- Ventricular Fibrillation
- PEA, Pulseless Electrical Activity

Bradycardia

Need to assess stable versus unstable

If stable . . .

- Monitor, observe, and obtain expert consultation

If unstable . . .

- Atropine 0.5mg IV. Can repeat Q 3-5 minutes to 3 mg
 - Maximum dose is 3mg (Including heart blocks)
- If Atropine ineffective
 - Dopamine infusion (2-20mcg/kg/min)
 - Epinephrine infusion (2-10mcg/min)
 - Transcutaneous pacing

Tachycardia with a Pulse

•If unstable (wide or narrow)-go straight to synchronized cardioversion (sedate first)

•If stable narrow complex

- obtain 12 lead
- vagal maneuvers
- adenosine 6mg RAPID IVP, followed by 12mg

Pulseless Rhythms - Cardiac Arrest - CPR

Oxygen, monitor, IV, Fluids, Glucose Check

Agonal gasps are a likely indicator

- 2 minute cycles of compressions, shocks (if VF/VT), and rhythm checks
- Epinephrine 1 mg first every 3-5 minutes (preferred method peripheral IV)

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Shockable Rhythms

Defibrillation

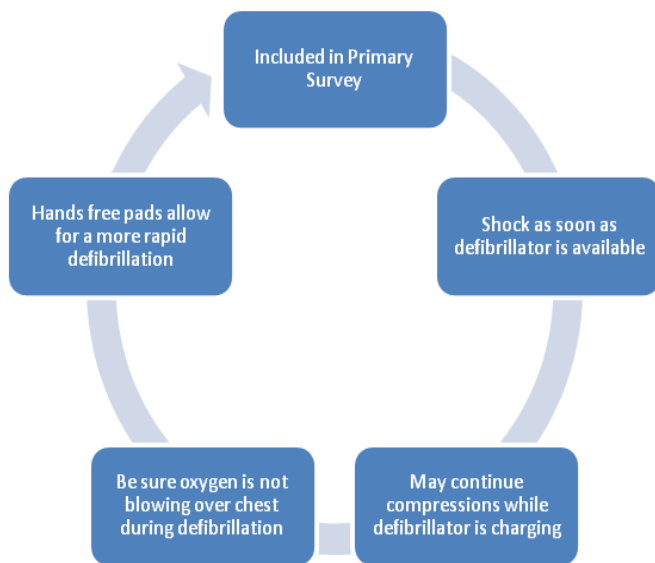
- Ventricular Fibrillation (VF)
 - Ventricular Tachycardia (VT) without pulse
- Biphasic: 120-200J Monophasic: 360J
Refractory – Amiodarone 300 mg, then 150 mg
After defibrillation resume CPR, starting with chest compressions

Synchronized Cardioversion

Unstable VT, unstable SVT

Non-Shockable Rhythms

PEA -Asystole

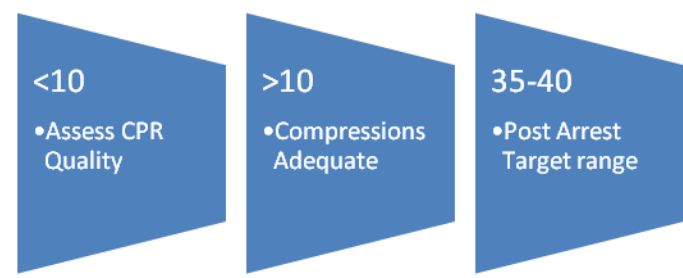


Waveform Capnography in ACLS (PETCO2)

- Allows for accurate monitoring of CPR
- Most reliable method to confirm and monitor ETT placement

Team Dynamics

- Closed Loop – repeat orders
- Incorrect order? – address immediately
- Task out of scope? – ask for new task or role
- Clearly delegate tasks



Treat Reversible Causes (H's and T's)

- Hypoxia or ventilation problems
- Hypovolemia
- Hypothermia
- Hypo /Hyper kalemia
- Hydrogen ion (**acidosis**)
- Tamponade, cardiac
- Tension pneumothorax
- Toxins – poisons, drugs
- Thrombosis – coronary (AMI)
- Thrombosis – pulmonary (PE)

Return of Spontaneous Circulation (ROSC)

Post Resuscitation Care

- 12 Lead
- Coronary reperfusion-capable center is the most appropriate EMS destination
- Hypothermia if DOES NOT follow verbal commands (**target temperature, at least 24 hours, 32 to 36 degrees C**)

First Priority
Optimize Ventilation and Oxygenation

- Maintain O2 sat >94%
- Consider adv. airway and waveform capnography
- Do not hyperventilate

Treat Hypotension
SBP <90mmHg

- IV bolus (1-2L NS or LR)
- Vasopressor infusion
- Epinephrine
- Dopamine
- Consider treatable causes
- 12-Lead ECG - Look for STEMI if so, cath lab

Does the patient follow commands?

- Yes - hypothermia contraindicated
- No - consider induced hypothermia

Points to Ponder

- Medical Emergency Teams (MET)/ Rapid Response Teams (RRT) can improve outcome by identifying and treating early clinical deterioration
- OPA – measure from corner of mouth to angle of the mandible
- Minimal systolic blood pressure is 90
- Don't suction for more than 10 seconds
- Pulse oximeter reading low, give oxygen