



Read the complete 2015 AHA Guidelines at this link:
<https://eccguidelines.heart.org/index.php/circulation/cpr-ecc-guidelines-2/>

1



Compression rate: 100-120

A higher upper rate limit was added as CPR as quality decreases with >120 compressions per minute.

Maximize compression time

Increased emphasis has been placed on minimizing the time without compressions to maximize coronary perfusion.



2

3



Deep, but not too deep

An upper limit on the depth of chest compressions has been added. They should be between 5cm (2") and 6cm (2.5"). Deeper can be harmful.

Directive dispatchers

Callers can receive increased guidance from emergency dispatchers regarding when to begin CPR. Dispatchers can also utilize social media applications to direct nearby assistance.



4

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Audiovisual feedback

Feedback to lay-providers may improve CPR. When available, audiovisual devices may be used to optimize CPR quality.

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Special thanks to Laurie Morrison
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2015 AHA Guideline Highlights

Top 3 Changes to BLS



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1



Not breathing? Naloxone!

The administration of naloxone (IM or IN) by trained BLS providers is reasonable in patients with abnormal breathing and suspected opioid ingestion.

Opioid overdose education

Training to treat an opioid overdose can be provided to opioid abusers and their close contacts.



2

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Manual spinal immobilization

In suspected spinal cord injuries, lay rescuers should manually immobilize the spine with their hands rather than using immobilization devices.

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1



Vasopressin is OUT

In an effort to streamline and simplify cardiac arrest algorithms, vasopressin has been removed. Epinephrine & vasopressin have equivalent outcomes.

Ultrasound for ETT confirmation

Ultrasound has been added as an additional method for confirming endotracheal tube placement.



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If you can't shock, give epi ASAP

Non-shockable rhythms (e.g. PEA) may have distinct pathophysiologic origins. It is reasonable to administer epinephrine ASAP to these non-shockable rhythms.

Use maximum Oxygen during CPR

Use maximum FiO₂ during CPR. This recommendation was strengthened, but remember to titrate your oxygen after ROSC.



4

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ECMO is a possible alternative

Venoarterial extracorporeal membrane oxygenation (ECMO) is a possible alternative to conventional CPR in patients with refractory cardiac arrest if the etiology is thought to be reversible.

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Fluids in Sepsis

1



An initial fluid bolus of 20cc/kg is reasonable. Further fluid resuscitation should be tailored to the individual patient, with frequent reassessment, recognizing that over aggressive fluid resuscitation may be harmful in resource limited settings.

Routine atropine unnecessary

Current Evidence does not support ROUTINE use of pre-intubation doses of atropine for critically ill children and non-neonatal infants requiring emergency intubation. Of course, however, use it if there is bradycardia.



2

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No minimum atropine dose

If you do use atropine prior to a non-emergency intubation, 0.02mg/kg is effective. Don't worry about under-dosing!

Avoid fever & control temp

Temperature control & fever management is important for comatose children after out-of-hospital cardiac arrest. Moderate hypothermia (32° to 34° C) or normothermia (36° to 37.5° C) are both reasonable.



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Amiodarone OR lidocaine

Both anti-arrhythmics are acceptable for treatment of shock-refractory VF or pulseless VT in pediatric patients.

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Prehospital STEMI? Go to PCI!

Prehospital recognition of STEMI with ED or Cath Lab notification decreases time to reperfusion. Inexperienced interpreters may benefit from computer analysis in conjunction with their interpretation. Field thrombolysis carries a risk of bleeding, so PCI is favoured.

No cath lab? Transfer all STEMI's out.

When timely transfer to PCI cannot be executed, fibrinolysis then transfer may be appropriate. Since PCI has become readily available in many places, quick transfer without fibrinolysis improves reperfusion and decreases risk of bleeding. If unable to transfer, fibrinolytic therapy with routine transfer for angiography is acceptable as an alternative.



2

3



TIMI 0 or 1 OR Vancouver rule "low risk" AND negative HSTi = discharge

When risk stratification and high sensitivity Troponin i at 0 and 2 hours are combined, a less than 1% risk of Major Acute Coronary Event (MACE) at 30 days can be determined.

Find the sweet spot: Avoid hypoxemia and hyperoxia.

Oxygen should be titrated to ensure SpO₂ of 94% or greater when a patient is not in respiratory distress.



4

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Field anticoagulation isn't necessary

Prehospital STEMI may be treated with heparin, bivalirudin or enoxaparin, but may be given on arrival at the PCI lab or ED instead.

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Manual Left Uterine Displacement

When resuscitating pregnant patients, previous editions of the guidelines listed alternatives (e.g. Tilt) that were not compatible with high-quality CPR. As such, manual left uterine displacement should be used.

4 minutes, and go!

For cardiac arrests in pregnant women with probable fetal viability, a perimortem c-section should be performed after 4m without circulation OR earlier if the mother's resuscitation is felt to be futile.



2

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Pulmonary Embolism & Lytics

Thrombolysis and thrombectomy are reasonable emergency treatments in cases of arrest due to pulmonary embolism (PE). Thrombolysis may also be considered if PE is the most likely cause.

Toxicology: Lipids to the rescue!

If you suspect that the cardiac arrest is due to a drug overdose (especially anesthetics), consider treatment with intravenous lipid emulsion.



4

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Toxicology: Naloxone for OD

Trained providers should administer naloxone to respiratory arrest patients with suspected opioid overdose. Lay-people likely to see opioid overdoses may be trained to administer naloxone during targeted BLS training.

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Focus on A-B-C's (again)

Return your focus to maintaining hemodynamics:
Titrate oxygenation to target O₂ sat of 94-98%,
Ventilation: normocapnia (ETCO₂ 30-40 mmHg),
Perfusion: MAP > 65 mmHg and/or SBP > 90 mmHg.

Target 32-36°C for 24 hours in hospital

Targeted temperature management for adult patients with ROSC who are comatose to 32-36°C. BUT prehospital cooling ain't so hot. Using cold saline in the field is not beneficial and may cause harm.



2

If ROSC, consider Cath!

Assess all comatose patients with cardiac etiology for potential angiography. Cath recommended for all with ST-elevation, and selected patients with suspected cardiac etiology even if no ST-elevation

3



Wait before you Prognosticate!

Wait 72 hours after arrest or 72 hours after cooling ends before prognostication.



4

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The Gift of Life

Organ donation should be considered in patients who do not have Return of Spontaneous Circulation (ROSC), have brain-death, or withdrawal of care.

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High-fidelity manikins for ACLS

The guidelines now recommend the use of high-fidelity manikins for training Advanced Life Support in places that have the infrastructure to support this. For low resource environments, use standard manikins.

More BLS/AED instruction

BLS skills seem to be learned as well through self-instruction (video or computer based) with hands-on practice as compared to traditional instructor-led courses. Reduces cost and resources. Increases potential rescuers. If including AED training, add hands on component.



2

3



More frequent re-training

Two-year retraining cycles are not optimal and more frequent training may be helpful for providers likely to encounter a cardiac arrest.

Team & leadership training in ACLS

Inclusion of team and leadership training as part of ACLS has potential benefit, and very small risk for harm. All benefit, no risk!



4

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Train bystanders in hands-only CPR

Communities may consider training bystanders in compression-only CPR for adult OHCA as an alternative to training in conventional CPR.

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