Update Summary:
American Heart Association 2025 BLS and ACLS Guidelines

Basic Life Support BLS summary

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Infant to age 1. Child to puberty
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Stroke

Child and Adult take capillary blood glucose if suspected:
Hyperglycemia (high blood sugar) is a common, often stress-induced, response to acute stroke, with over 50% of patients experiencing elevated glucose upon admission. Elevated capillary blood glucose (BG ≥ is greater than or equal to ≥ 155 mg/dL) within 48 hours of a stroke is strongly linked to poor functional outcomes, larger infarcts, and increased mortality, regardless of diabetes status.
-
Stroke recognition: FAST Face Arm Speech Time
Activate EMS, Use stroke recognition tool, measure blood glucose
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Chain of Survival

BLS Chain of Survival: Recognition and Emergency Activation; High-Quality CPR; Defibrillation; Advanced Resuscitation; Post-Cardiac Arrest Care; Recovery & Survivorship
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Newborn / Neonatal Chain of Survival: Prevention; Recognition & Activation; Initial Steps; Ventilation; Advanced Resuscitation; Postnatal Care; Recovery
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CPR

Adult compressions: Use firm surface at level of rescuer’s knees
-
Adult ventilation: avoid hypo and hyperventilation
-
Compression to ventilation ratio: studies have shown little difference in outcome between interrupted compressions for ventilation and continuous. Studies have shown that ventilation is often inadequate. 30 compressions followed by 2 breaths allows to monitor for chest rise.
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Infant compressions: 2 thumb encircling hands technique or heel of 1 hand
2 finger compressions no longer recommended
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BLS New

Adult CPR consider opioid antagonist for suspected cause of CPR
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Adult & Child foreign body airway obstruction (FBAO) repeat cycles starting with 5 back blows followed by 5 abdominal thrusts until FB expelled or becomes unresponsive - then start CPR
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Infant FBAO start 5 back blows followed with 5 chest thrusts - no abdominal thrusts. Chest thrusts 1 hand in middle of chest - palm with wrist down and fingers up facing eyes
-
CPR checklist - Yes for healthcare / No for public
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Advanced Cardiac Life Support ACLS Summary

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Post arrest temperature control

TTM is now Temperature Control: Choose 1 temperature between 32 to 37.5 C for all adults regardless of arrest location or presenting rhythm. Patients unresponsive with spontaneous hypothermic after ROSC should not be warmed faster than 0.5 C per hour. Rapid infusion of cold IV prehospital cooling not recommended
Temp control unresponsive patient after ROSC maintain for minimum of 36 hours
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Chain of Survival
Recognition & Emergency Activation; High Quality CPR; Defib; Advanced Resuscitation; Post-Cardiac Arrest Care; Recovery & Survivorship
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ACLS Updates

Cardioversion atrial fib AF and atrial flutter higher first shock 200J or greater preferred to lower settings. Lower energy more likely to produce VF
-
Post ROSC maintain MAP of at least 65
-
Asthma life threatening care adult and children may use ECLS extracorporeal life support and volatile anesthetics
-
Calcium IV adult and children effectiveness not well established - carefully consider use

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Hypothermia

ECLS extracorporeal life support for adults and children in hypothermic arrest. May be consideration to rewarm adults and children not in cardiac arrest with core temp <28 C.

Hypothermia core temp <30 C may cause cardiac arrest

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Hyperthermia

Hyperthermia >40 C may cause arrest. Immersion in ice water (1-5 C) consider as rapidly as possible at least 0.15 C/minute

-

LVAD left ventricular assist devices and impaired perfusion - chest compressions should be started

Perfusion assess: skin color, skin temperature, capillary refill, MAP, end-tidal CO2

-

Pregnancy

Manual left lateral uterine displacement

Cardiac arrest - complete delivery in 5 minutes

Consider extracorporeal CPR

Amniotic fluid embolism - massive transfusion protocol

-

Video rework + Precourse self-assessment. Must have score of 70%

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Tachycardia

Synchronized cardioversion initial setting

- Narrow-complex tachycardia 100 J
- Monomorphic VT 100 J
- Atrial fib 200 J
- Atrial flutter 200 J
- Do not synchronize - defibrillate polymorphic VT

sotalol (Betapace, Sorine) beta-blocker with antiarrhythmic properties removed from algorithm

Narrow-complex tachycardia - formerly called supraventricular tachycardia

-

Post-cardiac arrest care

Temperature Control 32 to 37.5 C for at least 36 hours

Hypotension - maintain MAP at least 65 mm Hg

Oxygen saturation 90 to 98%

-

Stroke:

tenecteplase added as thrombolytic

-

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Acute Coronary Syndrome:
LBB Left Bundle Branch Block removed as definitive ST-segment elevation MI
clopidogrel removed removed as primary anticoagulant
Pain control in addition to morphine added fentanyl as secondary
enoxaparin and fondaparinux added as anticoagulants
ACE angiotensin-converting enzyme inhibitors added
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Airway:
Changed breaths to “Squeeze bag 1/3 to 1/2 enough to see visible chest rise”. Formerly ventilations were considered 600 to 800 mL volume
Removed delivering medication down endotracheal tube
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<u>Hands On Review</u>

Learning station:
Cardiac Arrest includes CPR Coach role using CPR Triangle
Stations focus o chest compression fraction (CCF) measurements
Prebrief and Debrief are a focus
Megacode Testing measures CCF
-
Prebriefing
Safe environment
Set expectations
Rapport
Goals including CCF if appropriate
-
Debriefing - most critical portion
-
Team CPR Coach: Perform higher quality CPR with higher CCF
Coach verbalizes data from feedback device, corrective feedback, keep pauses to 10 seconds or less - separate role or monitor/defib person with direct line of sight to compressor
-
CCF Chest Compression Fraction - objective evaluation
Teams can achieve CCF greater than 80%
LUCAS no longer recommended - did not improve ROSC.
    Reduced 30 day survival in out of hospital patients
CCF percentage of doing active chest compressions over a time period.
6 minutes of chest compression over 8 minutes CPR is 75% CCF
AHA minimum CCF 60%
Note experienced team with advanced airway should have a CCF of 80% or better.
-
ABC has been changed to CAB so chest compressions will be started sooner
Checklist: prevents errors, improves consistency, reduces bias