

Summary of High-Quality CPR Components for BLS Providers



Component	Adults (puberty and beyond)	Children (1 year of age to puberty)	Infants (younger than 1 year, excluding newborns)
Verifying scene safety	Make sure the scene is safe for rescuers and the person who needs help.		
Recognizing cardiac arrest	Check for responsiveness Shout for nearby help No breathing or only gasping (ie, no normal breathing) No definite pulse felt within 10 seconds (Breathing and pulse check should be performed simultaneously for at least 5 but no more than 10 seconds.)		
Activating emergency response system	If a mobile device is available, call emergency services (911).		
	If you are alone with no mobile device, leave the person to activate the emergency response system and get the AED/defibrillator before beginning CPR. Otherwise, send someone else and begin CPR immediately; use the AED/ defibrillator as soon as it is available.	Witnessed collapse, single rescuer If you are alone and witnessed the sudden collapse and do not have a mobile device, leave the child or infant to activate the emergency response system and get the AED before beginning CPR. Unwitnessed collapse, single rescuer If you are alone and did not witness the sudden collapse of the child or infant, perform 5 cycles, or 2 minutes, of 30 compressions and 2 breaths before you leave to activate the emergency response system and get an AED/ defibrillator. Use the AED/defibrillator as soon as it is available.	
Compression-to-ventilation ratio <i>without advanced airway</i>	1 or 2 rescuers 30:2	1 rescuer 30:2 2 or more rescuers 15:2	
Compression-to-ventilation ratio <i>with advanced airway</i>	Continuous compressions at a rate of 100-120/min Give 1 breath every 6 seconds (10 breaths/min).	Continuous compressions at a rate of 100-120/min Give 1 breath every 2-3 seconds (20-30 breaths/min).	
Compression rate	100-120/min		
Compression depth	At least 2 inches (5 cm)*	At least one third the AP diameter of the chest Approximately 2 inches (5 cm)	At least one third the AP diameter of the chest Approximately 1½ inches (4 cm)
Hand placement	2 hands in the center of the chest, on the lower half of the sternum	1 or 2 hands in the center of the chest, on the lower half of the sternum	Use the heel of one hand or the 2 thumb-encircling hands technique
Chest recoil	Allow complete recoil of the chest after each compression; do not lean on the chest after each compression.		
Minimizing interruptions	Limit interruptions in chest compressions to less than 10 seconds with a CCF goal of at least 60%.		

*Compression depth should be no more than 2.4 inches (6 cm).

Abbreviations: AED, automated external defibrillator; AP, anteroposterior; CCF, chest compression fraction; CPR, cardiopulmonary resuscitation.

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2025 BLS Science Summary Table

This table compares topics from 2020 with 2025, providing a quick reference to what has changed and what is new in the science of basic life support.

BLS topic	2020	2025
Chain of Survival	A sixth link, Recovery, was added to the adult and pediatric IHCA and OHCA Chains of Survival.	A single Chain of Survival is intended to apply to adult and pediatric IHCA and OHCA. Creating a single chain acknowledges that before cardiac arrest, prevention and preparedness can both avoid the need for and optimize resuscitation.
Infant chest compressions	- Rescuers should compress the sternum with 2 fingers or 2 thumbs placed just below the nipple line. - If the rescuer is unable to achieve appropriate depth for infants with 2 fingers or 2 thumbs, use the heel of 1 hand.	- Rescuers should compress the sternum with the heel of 1 hand or the 2 thumb-encircling hands technique. - If the rescuer cannot physically encircle the infant's chest, compressing the chest with the heel of 1 hand is recommended. - Rescuers can use either technique as long as they are performing compressions at the correct depth and rate.
Opioid-associated emergency	The Opioid-Associated Emergency for Healthcare Providers Algorithm, in addition to the Adult BLS Algorithm for Healthcare Providers	The Adult BLS Algorithm for Health Care Professionals illustrates the role of opioid antagonists (eg, naloxone) for suspected opioid overdose during respiratory and cardiac arrest. There is no longer a separate Opioid-Associated Emergency for Healthcare Providers Algorithm.
Severe FBAO: infants	Deliver repeated cycles of 5 back slaps followed by 5 chest thrusts until the object is expelled or the victim becomes unresponsive.	- For infants with severe FBAO, repeated cycles of 5 back blows (slaps) alternating with 5 chest thrusts should be performed until the object is expelled or the infant becomes unresponsive (see the new FBAO algorithm). - Rescuers should activate the emergency response system. - The heel-of-1-hand technique for chest thrusts is now recommended for infants with severe FBAO.
Severe FBAO: children	Perform abdominal thrusts until the object is expelled or the child becomes unresponsive.	- For children with severe FBAO, repeated cycles of 5 back blows (slaps) alternating with 5 abdominal thrusts should be performed until the object is expelled or the child becomes unresponsive (see the new FBAO algorithm). - Rescuers should activate the emergency response system.
Severe FBAO: adults	Use repeated abdominal thrusts to relieve choking in a responsive adult.	- For adults with severe FBAO, repeated cycles of 5 back blows (slaps) followed by 5 abdominal thrusts should be performed until the object is expelled or the person becomes unresponsive (see the new FBAO algorithm). - Rescuers should activate the emergency response system. - Studies of adults with FBAO showed that back blows were associated with improved rates of FBAO relief and fewer injuries compared with abdominal thrusts.
BLS topic	2025	
Pediatric BLS Algorithm (Infants to Puberty) for Health Care Professionals—2 or More Rescuers	Updated to illustrate the role of opioid antagonists (eg, naloxone) for suspected opioid overdose during respiratory and cardiac arrest	
Pediatric BLS Algorithm (Infants to Puberty) for Health Care Professionals—Single Rescuer	Updated to illustrate the role of opioid antagonists (eg, naloxone) for suspected opioid overdose during respiratory and cardiac arrest	

Abbreviations: BLS, basic life support; FBAO, foreign-body airway obstruction; IHCA, in-hospital cardiac arrest; OHCA, out-of-hospital cardiac arrest.

Infant CPR Skills Testing Critical Skills Descriptors

- 1. Assesses infant and shouts for help (this must precede starting compressions) within a maximum of 30 seconds. After determining that the scene is safe:**
 - Checks for responsiveness by tapping and shouting
 - Shouts for help
 - Checks for no breathing or no normal breathing (only gasping)
 - Scans from the head to the chest for a minimum of 5 seconds and no more than 10 seconds
- 2. Cycle 1: Performs high-quality chest compressions (initiates compressions immediately after recognition of cardiac arrest)**
 - Correct placement of fingers in center of chest
 - 2 fingers of one hand, 2 thumbs, or the heel of 1 hand placed just below the nipple line to give compressions.
 - Compression rate of 100 to 120/min
 - Delivers 30 compressions in 15 to 18 seconds
 - Compression depth and recoil—compress at least one third the depth of the chest, about 1½ inches (4 cm)
 - Complete chest recoil after each compression
 - Use of a commercial feedback device/manikin is highly recommended
- 3. Cycle 1: Provides 2 breaths by using a barrier device**
 - Opens airway adequately
 - Uses a head tilt–chin lift maneuver
 - Delivers each breath over 1 second
 - Delivers breaths that produce visible chest rise
 - Avoids excessive ventilation
 - Resumes chest compressions in less than 10 seconds
- 4. Cycle 2: Performs same steps for compressions and breaths as in Cycle 1**
- 5. Cycle 3: Performs same steps for compressions and breaths as in Cycle 1**
- 6. Activates emergency response (9-1-1)**

Child CPR Skills Testing Critical Skills Descriptors

- 1. Assesses the child and activates emergency response system (this must precede starting compressions) within a maximum of 30 seconds. After determining that the scene is safe:**
 - Checks for responsiveness by tapping and shouting
 - Phones 9-1-1
 - Checks for no breathing or no normal breathing (only gasping)
 - Scans from the head to the chest for a minimum of 5 seconds and no more than 10 seconds
- 2. Cycle 1: Performs high-quality chest compressions (initiates compressions immediately after recognition of cardiac arrest)**
 - Correct hand placement
 - Lower half of breastbone
 - 1- or 2-handed (second hand on top of the first) compressions
 - Compression rate of 100 to 120/min
 - Delivers 30 compressions in 15 to 18 seconds
 - Compression depth and recoil—compress at least one third the depth of the chest, about 2 inches (5 cm)
 - Use of a commercial feedback device/manikin is highly recommended
 - Complete chest recoil after each compression
- 3. Cycle 1: Provides 2 breaths by using a barrier device**
 - Opens airway adequately
 - Uses a head tilt–chin lift maneuver
 - Delivers each breath over 1 second
 - Delivers breaths that produce visible chest rise
 - Avoids excessive ventilation
 - Resumes chest compressions in less than 10 seconds
- 4. Cycle 2: Performs same steps for compressions and breaths as in Cycle 1**
- 5. Cycle 3: Performs same steps for compressions and breaths as in Cycle 1**

Adult CPR and AED Skills Testing Critical Skills Descriptors

- 1. Assesses the person and activates emergency response system (this must precede starting compressions) within a maximum of 30 seconds. After determining that the scene is safe:**
 - Checks for responsiveness by tapping and shouting
 - Shouts for help/directs someone to use a cell phone to phone 9-1-1 or leave to find a phone and get AED
 - Checks for no breathing or no normal breathing (only gasping)
 - Scans from the head to the chest for a minimum of 5 seconds and no more than 10 seconds
- 2. Cycle 1: Performs high-quality chest compressions (initiates compressions immediately after recognition of cardiac arrest)**
 - Correct hand placement
 - Lower half of the breastbone
 - 2-handed (second hand on top of the first)
 - Compression rate of 100 to 120/min
 - Delivers 30 compressions in 15 to 18 seconds
 - Compression depth and recoil—at least 2 inches (5 cm)
 - Use of a commercial feedback device/manikin is required
 - Complete chest recoil after each compression
- 3. Cycle 1: Provides 2 breaths by using a barrier device**
 - Opens airway adequately
 - Uses a head tilt–chin lift maneuver
 - Delivers each breath over 1 second
 - Delivers breaths that produce visible chest rise
 - Avoids excessive ventilation
 - Resumes chest compressions in less than 10 seconds
- 4. Cycle 2: Performs same steps for compressions and breaths as in Cycle 1**
- 5. AED use**
 - Powers on AED
 - Turns AED on by pushing button or lifting lid as soon as it arrives
 - Correctly attaches pads
 - Places proper-sized pads for person's age in correct location
 - Clears for analysis
 - Clears rescuers from person for AED to analyze rhythm (pushes analyze button if required by device)
 - Verbalizes and visually demonstrates to stay clear of the person
 - Clears to safely deliver shock
 - Verbalizes and visually demonstrates to stay clear of the person
 - Presses button to deliver a shock
 - Resumes chest compressions immediately after shock delivery
 - Does not turn off AED during CPR
- 6. Cycle 3: Performs same steps for compressions and breaths as in Cycle 1**