

Part

6

HeartCode® BLS Lesson Plans

Precourse

Precourse Preparation

Instructor Tips

- Prepare for your role as a BLS Instructor well. Review all course materials and anticipate questions or challenges that may arise from students during the course. The time you invest in this part of your preparation is important to the overall success of every student.
 - Refer to “Part 1: Preparing for the Course” in the Instructor Manual for specific direction on preparing to teach blended-learning courses. Refer to “Part 2: Teaching the Course” for further instruction on using Lesson Plans.
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30 to 60 Days Before the Course

- Determine course specifics, such as
 - Your class audience, including their professions (in-facility or prehospital providers) and how the skills taught during this course will translate to their on-the-job performance
 - Number of participating students
 - Any special needs or equipment needed for the course
 - Reserve all needed equipment to teach the course. Refer to “Part 1: Preparing for the Course” in the Instructor Manual for a complete equipment list.
 - Schedule a room that meets the room requirements for the BLS Course. Refer to “Part 1: Preparing for the Course” in the Instructor Manual for detailed requirements.
 - Schedule additional instructors, if needed, depending on the size of the class.
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At Least 3 Weeks Before the Course

- Send participating HeartCode BLS students their precourse letter, including the course key for the online portion, their student materials, and the course agenda.
 - Confirm additional scheduled instructors, if needed.
 - Research local protocols that pertain to your area. This will help when answering students’ questions during the course. Refer to optional Lesson 4A: Local Protocols Discussion for further detail and examples.
 - Also encourage students to know their local protocols before coming to class.
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Day Before the Course

- Confirm room reservations and that all required equipment needed is available for the course.
 - Set up the room and make sure that all technology and equipment are working properly. This can also be done the day of the course if the room is not accessible the day before.
 - Locate the nearest AED in the building and confirm the emergency response number.
 - Coordinate the roles and responsibilities with additional instructors, if needed, to fulfill the course agenda and to ensure efficiency and timing of the course, per the course agenda.
 - Ensure that all course paperwork is in order.
 - If using the Full Code Pro app for the High-Performance Teams Activity, download the app to an iOS smartphone or tablet. Review the Full Code Pro app before class to become familiar with the functionality.
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Day of the Course

Arrive at the course location in plenty of time to complete the following:

- Make sure all equipment is working and has been cleaned according to manufacturer instructions.
- Have the video ready to play before students arrive and make sure it is working properly with sound.
- Distribute supplies to the students or set up supplies for students to collect when they arrive, with clear instructions on what they need.
- Greet students as they arrive to put them at ease, and direct them where to go.
- Make sure the course roster is completed by all students as they arrive for the course.
- Collect each student's certificate of completion for the online portion of HeartCode BLS. Verify that students completed the online portion with at least an 84% passing rate of the online exam.

Lesson 1

Course Introduction

5 minutes

Instructor Tips

- Advise students that the course is fast-paced and allows students to watch and practice their skills.
 - Be familiar with the learning objectives and the BLS Course content. Knowing what you want to communicate, why it's important, and what you want to happen as a result are critical to the success of the course.
 - Think about how you want to manage breaks during the course. Making yourself available allows you to answer questions people might feel too embarrassed to ask in front of everyone. It also gives you time to establish rapport and get feedback.
 - Familiarize yourself with all equipment that will be used in the class and how to assemble it so that
 - You know how to help students with the equipment during the course
 - You are able to troubleshoot any problems with the equipment
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Discussion

- Introduce yourself and additional instructors, if present.
- Invite students to introduce themselves.
- Explain that the course is interactive. Refer to the following points (see detailed information for each throughout the Instructor Manual) for discussion with students:
 - Your role
 - Video-based learning
 - Review of each skill from the online portion of the course before skills practice
 - Practice while watching
 - Refer to “Part 2: Teaching the Course” in the Instructor Manual for detailed information about practice while watching.
 - Skills test
- Ask that any student who anticipates difficulties due to personal limitations, such as a medical concern or knee or back problems, speak with one of the instructors. Refer to “Part 1: Preparing for the Course” in the Instructor Manual for further explanation about students with special needs.
- Explain the layout of the building, including bathrooms and emergency exits.
- Remind students of where the nearest AED is located and what their emergency response number is.
- Describe the course agenda:
 - Inform students of breaks you have scheduled during the class.
 - Tell students, “We are scheduled to end at _____.”

- Remind students what they will review and practice from the online portion during the classroom portion of the course. At the end of the HeartCode BLS Course, learners will be able to
 - Describe the importance of high-quality CPR and its impact on survival
 - Describe all of the steps of the Chain of Survival
 - Apply the BLS concepts of the Chain of Survival
 - Recognize the signs of someone needing CPR
 - Perform high-quality CPR for an adult
 - Describe the importance of early use of an AED
 - Demonstrate the appropriate use of an AED
 - Provide effective ventilation by using a barrier device
 - Perform high-quality CPR for a child
 - Perform high-quality CPR for an infant
 - Describe the importance of teams in multirescuer resuscitation
 - Perform as an effective team member during multirescuer CPR
 - Describe the technique for relief of foreign-body airway obstruction for an adult or child
 - Describe the technique for relief of foreign-body airway obstruction for an infant
- For further detail on the video lessons to be shown during the course, refer to the HeartCode BLS Outline in “Part 2: Teaching the Course” in the Instructor Manual.
- Remind students of the course completion requirements:

Skills Test Requirements	Exam Requirements
Students must successfully pass these skills tests by being evaluated once in each role: <ul style="list-style-type: none"> • Adult CPR With AED Skills Test • Infant CPR Skills Test 	Score at least 84% on the exam completed online (or in the classroom if needed)

Lesson 1A

Life Is Why™ Activity (Optional)

8 minutes

Instructor Tips

- Before facilitating this lesson, complete the Life Is Why activity in the Instructor Manual. Have your “_____ Is Why” prepared to share with students.
- You can make additional copies of the Life Is Why activity from the Instructor Manual for students to complete the activity.



Play Video

- Play the Life Is Why video.



Discussion

- To engage the class, after viewing the Life Is Why video, take 2 to 3 minutes to share your Why with the class, based on your completed Life Is Why activity in the Instructor Manual.
- Then, encourage students to participate in the following activity:
 - Give students the “_____ Is Why” page. Tell students:
 - Complete this activity by filling in the blank with the word that describes your Why.
 - Tell your family and friends about your “_____ Is Why,” and ask them to discover their Why.

Lesson 2

Adult BLS

28 minutes

At the beginning of this lesson, have students position themselves at the side of their manikins.

Part I: Scene Safety and Assessment

Part II: Adult Compressions

Part III: Pocket Mask

Part IV: 1-Rescuer Adult BLS

Part V: Bag-Mask Device

Part VI: 2-Rescuer Adult BLS

Learning Objectives

Tell students that at the end of this lesson, they will be able to

- Describe the importance of high-quality CPR and its impact on survival
- Apply the BLS concepts of the Chain of Survival
- Recognize the signs of someone needing CPR
- Perform high-quality CPR for an adult
- Provide effective ventilation by using a barrier device
- Perform as an effective team member during multirescuer CPR

Instructor Tips

- Video demonstration: Students will initially watch the video demonstrate a skill before the practice while watching.
- Practice while watching: After the demonstration, students will practice while watching along with the video segment. Notice the practice-while-watching icon that appears on the screen.
- Feedback: When providing feedback to students who are practicing, remember to focus on what you *do* want rather than what you *don't* want. Remember to always state feedback in a positive tone.
- When concluding a practice-while-watching session, ask all students if they are ready to move forward to the next skill or if they would like to repeat practice while watching.

Choose which provider option to play for this lesson by selecting the in-facility or prehospital icon.



Play Video

The video will show and discuss

Demonstration: Scene Safety and Assessment

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice being the first rescuer on the scene and checking for scene safety and assessment.
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Practice While Watching: Scene Safety and Assessment

- Students will follow along with the video to complete the following actions. *These actions can be completed in a different order, but this sequence is followed during the practice-while-watching segment.*
 - Verify that the scene is safe for you and the victim.
 - Check for responsiveness. Tap the victim’s shoulder and shout, “Are you OK?”
 - Assess the victim for presence of a pulse and normal breathing.
 - If the victim is not responsive, shout for nearby help.
 - Activate the emergency response system in your setting.
 - Get the AED and emergency equipment. If someone else is available, send that person to get it.
 - Observe students and provide positive and corrective feedback on their performance.
 - Optional: Remind students of personal protective equipment that may be available in their work environment and the importance of knowing the location of this equipment.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Play Video

The video will show and discuss

Demonstration: Adult Compressions

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice adult chest compressions and will complete 3 sets of 30 compressions.
-



Practice While Watching: Adult Compressions

- Students will follow along with the video to complete the following steps:
 - Step 1: Position yourself at the victim’s side.
 - Step 2: Put the heel of one hand on the center of the victim’s chest, on the lower half of the breastbone (sternum).
 - Step 3: Put the heel of your other hand on top of the first hand.
 - Step 4: Straighten your arms and position your shoulders directly over your hands.
 - Step 5: Give chest compressions.
 - Press down at least 2 inches (5 cm) with each compression. Make sure you push straight down on the victim’s breastbone.
 - Deliver compressions at a rate of 100 to 120/min.
 - At the end of each compression, make sure you allow the chest to recoil (re-expand) completely.
 - Step 6: Minimize interruptions of chest compressions.

- Observe students and provide positive and corrective feedback on their performance.
 - Emphasize core concepts: correct hand placement; push hard, push fast; allow complete chest recoil.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Play Video

The video will show and discuss

Demonstration: Pocket Mask

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice using a pocket mask and will complete 5 sets of 2 breaths.
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Practice While Watching: Pocket Mask

- Students will follow along with the video to complete the following steps:
 - Step 1: Position yourself at the victim's side.
 - Step 2: Place the pocket mask on the victim's face, using the bridge of the nose as a guide for correct position.
 - Step 3: Seal the pocket mask against the face.
 - Using your hand that is closer to the top of the victim's head, place the index finger and thumb along the edge of the mask.
 - Place the thumb of your other hand along the edge of the mask.
 - Step 4: Place the remaining fingers of your second hand along the bony margin of the jaw, and lift the jaw. Perform a head tilt–chin lift to open the airway.
 - Step 5: While you lift the jaw, press firmly and completely around the outside edge of the mask to seal the pocket mask against the face.
 - Step 6: Deliver each breath over 1 second, enough to make the victim's chest rise.
 - Observe students and provide positive and corrective feedback on their performance.
 - Tell students they need to hold the mask firmly against the face.
 - Emphasize visible chest rise.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Play Video

The video will show and discuss

Demonstration: 1-Rescuer Adult BLS

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice the entire 1-rescuer adult BLS sequence and will complete 3 sets of 30 compressions, with 2 breaths at the end of each set of compressions.
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Practice While Watching: 1-Rescuer Adult BLS

- Students will follow along with the video to complete the steps for scene safety and assessment, adult compressions, and pocket mask. Refer to each skill in this Lesson Plan for detailed steps.
 - Observe students and provide positive and corrective feedback on their performance.
 - Coach students on strengthening high-quality CPR.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Play Video

The video will show and discuss

Demonstration: Bag-Mask Device

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice using the bag-mask device and will complete 5 sets of 2 breaths.
-



Practice While Watching: Bag-Mask Device

- Students will follow along with the video to complete the following steps:
 - Step 1: Position yourself directly above the victim's head.
 - Step 2: Place the mask on the victim's face, using the bridge of the nose as a guide for correct position.
 - Step 3: Use the E-C clamp technique to hold the mask in place while you lift the jaw to hold the airway open.
 - Perform a head tilt.
 - Place the mask on the face, with the narrow portion at the bridge of the nose.
 - Use the thumb and index finger of one hand to form a "C" on the side of the mask, pressing the edges of the mask to the face.
 - Use the remaining fingers to lift the angles of the jaw (3 fingers form an "E"), open the airway, and press the face to the mask.
 - Step 4: Squeeze the bag to give breaths (1 second each) while watching for chest rise. Deliver each breath over 1 second whether or not you use supplementary oxygen.
 - Observe students and provide positive and corrective feedback on their performance.
 - Make sure students give 2 breaths and watch for chest rise.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Play Video

The video will show and discuss

Demonstration: 2-Rescuer Adult BLS

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice each role of the 2-rescuer adult CPR sequence. Assign which student will play Rescuer 1 and which student will play Rescuer 2.
 - After the first practice-while-watching segment, the video will be repeated for students to switch and practice the duties of the other role. Each student will complete 3 sets of 30:2.
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Practice While Watching: 2-Rescuer Adult BLS

Students will follow along with the video to complete the following steps:

- Scene safety and assessment

Rescuer 1

- Have Rescuer 1 get into position at the victim's side to perform chest compressions and to practice the following:
 - Compress the chest at least 2 inches (5 cm).
 - Compress at a rate of 100 to 120/min.
 - Allow the chest to recoil completely after each compression.
 - Minimize interruptions in compressions (try to limit any interruptions in chest compressions to less than 10 seconds).
 - Use a compression-to-ventilation ratio of 30:2.
 - Count compressions out loud.

Rescuer 2

- Have Rescuer 2 get into position at the victim's head and maintain an open airway by
 - Using a head tilt–chin lift or jaw thrust
 - Giving breaths with a bag-mask device, watching for chest rise and avoiding excessive ventilation
 - Tell Rescuer 2 to encourage Rescuer 1 to perform compressions that are deep enough and fast enough and to allow complete chest recoil between compressions.
 - Observe students and provide positive and corrective feedback on their performance.
-



Repeat Segment

- Have students switch roles and repeat the practice-while-watching segment.
- Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.

Lesson 3

AED for Adults, Children, and Infants

10 minutes

Part I: AED Review

Part II: AED (Students Practice)

Learning Objectives

Tell students that at the end of this lesson, they will be able to

- Describe the importance of early use of an AED
- Demonstrate the appropriate use of an AED



Discussion: AED Review

During the pause, show students the AED trainer and

- Explain AED use for adults, children, and infants
- Explain how to use the AED trainer
- Emphasize following the AED prompts
- Remind students that the AED trainer in class will not give a real shock
- Direct students to have the AED trainers accessible
- Tell students they are now going to practice using the AED



Students Practice: AED

Teach students the following steps for using an AED. First demonstrate with your AED trainer, and then have students practice.

Instructions for Students

- Step 1: Open the carrying case. Power on the AED if needed.
 - Some devices will power on automatically when you open the lid or case.
 - Follow the AED prompts as a guide to next steps.
- Step 2: Attach AED pads to the victim's bare chest.
 - Use adult pads for victims 8 years of age and older. Use child pads for children younger than 8 years of age. If child pads are not available, use adult pads.
 - Peel the backing away from the AED pads.
 - Attach the adhesive AED pads to the victim's bare chest.
 - Place one AED pad on the victim's upper-right chest (directly below the collarbone). Place the other pad to the side of the left nipple, with the top edge of the pad a few inches below the armpit.
 - Make sure the pads do not touch each other or overlap. If the victim has a small chest, place one pad on the chest and the other pad on the back.
 - Attach the AED connecting cables to the AED box (some are preconnected).

- Step 3: Clear the victim and analyze the rhythm.
 - If the AED prompts you, clear the victim during analysis. Be sure no one is touching the victim, not even the rescuer in charge of giving breaths.
 - Some AEDs will tell you to push a button to allow the AED to begin analyzing the heart rhythm; others will do that automatically. The AED may take a few seconds to analyze.
 - The AED then tells you if a shock is needed.
 - Step 4: If the AED advises a shock, it will tell you to clear the victim.
 - Clear the victim before delivering the shock; be sure no one is touching the victim.
 - Loudly state a “clear the victim” message, such as “Everybody clear” or simply “Clear.”
 - Look to be sure no one is in contact with the victim.
 - Press the Shock button.
 - The shock will produce a sudden contraction of the victim’s muscles.
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Students Practice (Optional): 2-Rescuer Adult BLS With AED

- After having students complete the 2-rescuer CPR sequence with the practice-while-watching segment, tell students to incorporate the use of the AED into their full adult CPR sequence.
 - Follow the steps on the Adult CPR and AED Skills Testing Checklist for how to use the AED in a 2-rescuer CPR sequence.
- Observe students and provide positive and corrective feedback, while emphasizing
 - Arrival and activation of the AED
 - Correct placement of the AED pads
 - Following the AED prompts
- Repeat this practice as many times as needed for all students to complete the practice session.

Lesson 4

High-Performance Teams Activity

15 minutes

Learning Objective

Tell students that at the end of this lesson, they will be able to

- Describe the importance of teams in multirescuer resuscitation

Instructor Tips

After you play the video, your role during this activity is to watch multiple rescuers simultaneously, noting team function that can be used for your debriefing at the end of each case. You will complete the following:

- Present one 10-minute scenario, and follow with a 5-minute debriefing.
- The chest compression fraction (CCF) is the proportion of time that chest compressions are performed during a cardiac arrest. A CCF of at least 60% is recommended, and a goal of 80% is often achievable with good teamwork. In this lesson, to determine whether the team is successful in achieving this CPR quality indicator, you can compute the CCF by choosing one of the following options:

Option 1

- Use 2 stopwatches.
 - Start one stopwatch as soon as you give the scenario to the team, and let it run continuously to the 10-minute mark (total resuscitation time). It will serve as a reminder to stop the case.
 - The second stopwatch should be started and stopped as chest compressions are being performed.
 - At the end of the case, to achieve a CCF of greater than 60%, the total chest compression time should be more than 6 minutes of the 10-minute scenario. To achieve a CCF of greater than 80%, the total chest compression time should be more than 8 minutes of the 10-minute scenario.

Option 2

- Download the Full Code Pro tracking app to an iOS smartphone or tablet. This app can be used to capture resuscitation data during training events as well as in real patient events.

Option 3

- Use a manikin that captures resuscitation data.



Play Video

The video will show and discuss

Instruction: High-Performance Teams Activity

- Have students position themselves into groups for the scenario and assign team roles.
- Let students know that they will first be given a scenario and then they will begin the High-Performance Teams Activity.



Students Practice

Present the following scenario to each team:

“As part of a multi-rescuer emergency response team, you respond to a call about a 65-year-old woman who suddenly collapsed. Your team arrives within seconds after the incident, and you notice that compression-only CPR is being performed by a bystander.”

- Observe students and provide positive and corrective feedback on their performance.
 - Focus on coaching students through the teamwork.
 - Keeping in mind the components of high-quality CPR, watch for poor performance in any area, and then provide focused practice in those areas.
 - As the compressor gets closer to the end of the 2 minutes, ensure that the compressions are still of adequate rate and depth and that the compressor allows complete chest recoil (avoiding leaning on the chest).
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Discussion: High-Performance Teams Activity Debriefing

- At the end of the scenario, debrief by allowing the team to say what they thought went well and what could have been better.
 - Disclose the CCF and discuss any strategies that could be incorporated to improve.
 - Talk about the other components of high-quality CPR and whether the team achieved these.
 - Let the team lead the discussion; ask open-ended questions to facilitate the discussion.
 - Coach on how communication might be improved through the use of closed-loop communication. When communicating with resuscitation team members, the team leader should use closed-loop communication by taking these steps:
 - The team leader gives a message, order, or assignment to a team member.
 - By receiving a clear response and eye contact, the team leader confirms that the team member heard and understood the message.
 - The team leader listens for confirmation of task performance from the team member before assigning another task.
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Skills Test (Optional)

You have the option to administer the Adult CPR and AED Skills Test now. If you choose to administer the skills test now, refer to Lesson 10: Adult CPR and AED Skills Test. Remember that you may need the adult manikins for Lesson 5: 2-Rescuer Child CPR.

Lesson 4A

Local Protocols Discussion (Optional)

10 minutes

Instructor Tips

- Across the country, each EMS system develops treatment protocols based on local need, preference of administration, and medical direction. In many cases, these differ from established national standards. The course you are teaching may direct providers to act in ways that are not consistent with local treatment protocols. The AHA wishes to improve the chance of survival for every victim of cardiac arrest but does not wish to conflict with established local protocols.
- When you lead the discussion on local protocols, make sure you know what the local protocols are. If you are a member of the local EMS system, you should already be aware of local protocols, but if you are not, obtain and study them before the course so you can have a meaningful discussion.

The AHA does not endorse any particular resuscitation protocol or strategy. This discussion is a chance for students to articulate their protocols and to practice AHA skills within the context of their protocols.



Discussion

Lead students through discussion about high-performance teams and local protocols. Use the questions below to help guide this discussion:

- Does your system currently use a high-performance team approach to resuscitation?
- How can you incorporate high-performance teamwork into your department's protocols?
- What are some potential challenges to incorporating high-performance teamwork into your protocols?
- What are some potential challenges to high-performance teamwork in terms of location, patients, or equipment?
- Compare and contrast the local protocol with the AHA BLS Healthcare Provider Adult Cardiac Arrest Algorithm.

The following examples show some differences that may occur between what is taught in the course and local protocols; these are common differences. These sections are used only if students ask questions about these examples.

What to say when local protocols for chest compressions differ from what the course teaches:

In the course, you learned to do 30 high-quality chest compressions and then 2 breaths. This could differ from your local protocol, which may have you do 90 seconds of continuous chest compressions or 200 chest compressions before beginning breaths, or a variation of these.

- Follow the local protocol.
- The important factors in this lesson are to perform the compressions at a rate of 100 to 120/min, at least 2 inches in depth, while allowing the chest to recoil completely between compressions.
- Have the next compressor immediately ready to switch to minimize any interruptions in compressions.

Studies show that patients who receive chest compressions at a rate of 100 to 120/min and a CCF of greater than 80% have a much better chance of survival.

What to say when local protocols for AED use differ from what the course teaches:

In the course, you learned to use the AED immediately after it arrives. This could differ from your workplace protocol, which may have you use the AED only after you do 200 chest compressions (or 2 minutes of CPR) or a variation of this.

- Follow the local protocol.
- Continue high-quality chest compressions up to the point of allowing the AED to analyze.
- Immediately begin chest compressions after a shock is delivered or the AED states “no shock advised.”
- Keep in mind that as time to defibrillation increases, the chances of survival decrease.

The greatest chance of survival from cardiac arrest is found when a patient receives high-quality CPR and early defibrillation.

What to say when local protocols for role assignment differ from what the course teaches:

In the course, you learned about the different roles that prehospital providers may have (compressor, recorder, etc). This could differ from your workplace protocol, which assigns you a role based on your role on the fire engine, ambulance, or other team.

- Follow the local protocol.
- Know your potential assignments ahead of time to reduce confusion in a real event.
- Make sure that the roles and responsibilities are clear so that interruptions in chest compressions are minimized and that teamwork is smooth and executed efficiently.
- It is critical for high-performance teams to practice in the same way that they will perform in real situations.
- Appoint a team leader (incident commander) who oversees the event, assesses the efficacy of efforts, and makes changes when less-than-adequate resuscitation performance is noted.
- A debriefing should occur after each scenario in a course and after each real resuscitation event, to optimize efforts in the future.

What to say when local protocols for use of a bag-mask device differ from what the course teaches:

In the course, you learned about providing ventilation with a bag-mask device. Your local protocol may call for chest compressions only, or 200 chest compressions before breaths, or use of a bag-mask device with a face mask for a short time until a supraglottic airway can be placed (as soon as possible), or a variation of these.

- Follow the local protocol.
- Provide only enough volume with each ventilation to make the chest rise (do not deliver large breaths that can potentially inhibit venous blood flow back into the chest).
- When delivering ventilation during CPR with an advanced airway, provide no more than 12 breaths per minute (excessive ventilation can increase intrathoracic pressure, can impede venous return, and may potentially reduce cerebral blood flow).

- Do not interrupt chest compressions for extended lengths of time to place an advanced or supraglottic airway.

Early in a witnessed sudden cardiac arrest, there may be less need for supplementary oxygen and ventilation because of normal oxygen saturations in the body before the arrest. But in an unwitnessed arrest or an arrest of unknown etiology, ventilation can be paramount. With infants and children in cardiac arrest, ventilation with supplementary oxygen is critical, because respiratory conditions and shock are the most prevalent causes of arrest in this patient population.

Lesson 5

2-Rescuer Child CPR

5 minutes

Learning Objective

Tell students that at the end of this lesson, they will be able to

- Perform high-quality CPR for a child

Instructor Tips

- If you are using adult manikins for the child CPR practice, inform students that they may need to use 2 hands while performing CPR during practice because of the difficulty of compressing with 1 hand on the adult manikin. Remind students that the technique used for child CPR will depend on the size of the child and the physical ability of the person performing compressions.

Choose which provider option to play for this lesson by selecting the in-facility or prehospital icon.



Play Video

The video will show and discuss

Demonstration: 2-Rescuer Child CPR

- Have students position themselves at the side of their manikins to watch the demonstration.
- After the demonstration, students will practice each role of the 2-rescuer child CPR sequence. Assign which student will play Rescuer 1 and which student will play Rescuer 2.



Practice While Watching: 2-Rescuer Child CPR

Students will follow along with the video to complete the following steps:

Rescuer 1

- Have Rescuer 1 get into position at the victim's side to perform chest compressions and to practice the following:
 - Compress at least one third the depth of the chest, about 2 inches (5 cm).
 - Compress at a rate of 100 to 120/min.
 - Allow the chest to recoil completely after each compression.
 - Minimize interruptions in compressions (try to limit any interruptions in chest compressions to less than 10 seconds).
 - Use a compression-to-ventilation ratio of 15:2.
 - Count compressions out loud.

Rescuer 2

- Have Rescuer 2 get into position at the victim's head and maintain an open airway by
 - Using a head tilt–chin lift or jaw thrust
 - Giving breaths with a bag-mask device, watching for chest rise and avoiding excessive ventilation

- Tell Rescuer 2 to encourage Rescuer 1 to perform compressions that are deep enough and fast enough and to allow complete chest recoil between compressions.
 - Observe students and provide positive and corrective feedback on their performance.
 - Emphasize core concepts: push hard, push fast; allow complete chest recoil; when giving breaths, watch for chest rise; minimize interruptions.
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Repeat Segment

- Have students switch roles and repeat the practice-while-watching segment.
- Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session. Each student will complete 3 sets of 15:2.

Lesson 6

Infant BLS

13 minutes

Part I: Infant Compressions

Part II: Bag-Mask Device for Infants

Part III: 2-Rescuer Infant CPR

Learning Objective

Tell students that at the end of this lesson, they will be able to

- Perform high-quality CPR for an infant

Choose which provider option to play for this lesson by selecting the in-facility or prehospital icon.



Play Video

The video will show and discuss

Demonstration: Infant Compressions

- Have students position themselves at the side of their manikins to watch the demonstration.
- After the demonstration, students will practice infant chest compressions and will complete 3 sets of 30 compressions.



Practice While Watching: Infant Compressions

- Students will follow along with the video to complete the following steps:
 - Step 1: Place the infant on a firm, flat surface.
 - Step 2: Place 2 fingers in the center of the infant's chest, just below the nipple line, on the lower half of the breastbone. Do not press the tip of the breastbone.
 - Step 3: Push hard and fast, at least one third the depth of the chest (about 1½ inches [4 cm]). Deliver compressions at a rate of 100 to 120/min.
 - Step 4: At the end of each compression, make sure you allow the chest to recoil (re-expand) completely; do not lean on the chest.
 - Step 5: Minimize interruptions in compressions (try to limit any interruptions in chest compressions to less than 10 seconds).
- Observe students and provide positive and corrective feedback on their performance.
- Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.



Play Video

The video will show and discuss

Demonstration: Bag-Mask Device for Infants

- Have students position themselves at the side of their manikins to watch the demonstration.

- After the demonstration, students will practice using the bag-mask device for infants and will complete 5 sets of 2 breaths for each student.



Practice While Watching: Bag-Mask Device for Infants

- Students will follow along with the video to complete the following steps:
 - Step 1: Position yourself directly above the victim's head.
 - Step 2: Place the mask on the victim's face, using the bridge of the nose as a guide for correct position.
 - Step 3: Use the E-C clamp technique to hold the mask in place while you lift the jaw to hold the airway open.
 - Perform a head tilt.
 - Place the mask on the face, with the narrow portion at the bridge of the nose.
 - Use the thumb and index finger of one hand to form a "C" on the side of the mask, pressing the edges of the mask to the face.
 - Use the remaining fingers to lift the angles of the jaw (3 fingers form an "E"), open the airway, and press the face to the mask.
 - Step 4: Squeeze the bag to give breaths (1 second each) while watching for chest rise. Deliver each breath over 1 second whether or not you use supplementary oxygen.
- Observe students and provide positive and corrective feedback on their performance.
 - Make sure students give 2 breaths and watch for chest rise.
- Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.



Play Video

The video will show and discuss

Demonstration: 2-Rescuer Infant CPR

- Have students position themselves at the side of their manikins to watch the demonstration.
- After the demonstration, students will practice each role of the 2-rescuer infant CPR sequence. Assign which student will play Rescuer 1 and which student will play Rescuer 2.



Practice While Watching: 2-Rescuer Infant CPR

Students will follow along with the video to complete the following steps:

- Scene safety and assessment

Rescuer 1

- Have Rescuer 1 get into position at the victim's side to perform chest compressions by using the 2 thumb-encircling hands technique and to practice the following:
 - Compress at least one third the depth of the infant's chest (about 1½ inches [4 cm] deep).
 - Compress at a rate of 100 to 120/min.
 - Allow the chest to recoil completely after each compression.
 - Minimize interruptions in compressions (try to limit any interruptions in chest com-

- pressions to less than 10 seconds).
- Use a compression-to-ventilation ratio of 15:2.
- Count compressions out loud.

Rescuer 2

- Have Rescuer 2 get into position at the victim’s head and maintain an open airway by
 - Using a head tilt–chin lift or jaw thrust
 - Giving breaths with a bag-mask device, watching for chest rise and avoiding excessive ventilation
- Tell Rescuer 2 to encourage Rescuer 1 to perform compressions that are deep enough and fast enough and to allow complete chest recoil between compressions.
- Observe students and provide positive and corrective feedback on their performance.
 - Emphasize core concepts: push hard, push fast; allow complete chest recoil; when giving breaths, watch for chest rise; minimize interruptions.



Repeat Segment

- Have students switch roles and repeat the practice-while-watching segment.
- Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session. Each student will complete 3 sets of 15:2.



Students Practice: Infant High-Performance Teams Activity (Optional)

For additional student practice with high-performance teams, students can now complete the High-Performance Teams Activity using an infant scenario. Refer to “Lesson 4: High-Performance Teams Activity” for further detail on how to complete this activity with the following scenario:

- “As part of a multirescuer emergency response team, you respond to a call from a parent who says her 9-month-old infant started having breathing difficulties after feeding.”



Skills Test (Optional)

You have the option to administer the Infant CPR Skills Test now. If you choose to administer the skills test now, refer to Lesson 11: Infant CPR Skills Test. Remember that you will need the infant manikins for Lesson 7: Special Considerations: Rescue Breathing and Lesson 8: Relief of Choking.

Lesson 7

Special Considerations: Rescue Breathing

3 minutes

Choose which provider option to play for this lesson by selecting the in-facility or prehospital icon.



Play Video

The video will show and discuss

Demonstration: Rescue Breathing (Adults)

- Have students position themselves at the side of their manikins to watch the demonstration.
 - After the demonstration, students will practice rescue breathing on the manikin.
 - If students have already completed the Adult CPR and AED Skills Test and the adult manikins are put away, you may have students practice rescue breathing on an infant manikin instead of an adult manikin. If selecting this option, proceed to Students Practice: Rescue Breathing (Infants and Children) later in this lesson, instead of Practice While Watching: Rescue Breathing (Adults).
-



Practice While Watching: Rescue Breathing (Adults)

- Students will follow along with the video to complete the following steps for adult rescue breathing:
 - Rescue breathing for adults:
 - Give 1 breath every 5 to 6 seconds (about 10 to 12 breaths per minute).
 - Give each breath over 1 second.
 - Ensure each breath results in visible chest rise.
 - Check the pulse about every 2 minutes.
 - Observe students and provide positive and corrective feedback on their performance.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Students Practice: Rescue Breathing (Infants and Children)

- Teach students the following steps for providing rescue breathing for infants and children. Then, have students practice.
 - Rescue breathing for infants and children:
 - Give 1 breath every 3 to 5 seconds (about 12 to 20 breaths per minute).
 - Give each breath over 1 second.
 - Ensure each breath results in visible chest rise.
 - Check the pulse about every 2 minutes.
 - Observe students and provide positive and corrective feedback on their performance.
 - Repeat the practice as many times as needed for all students to complete the practice session.

Lesson 8

Relief of Choking

6 minutes

Part I: Relief of Choking in an Adult or a Child

Part II: Relief of Choking in a Responsive Infant

Learning Objectives

Tell students that at the end of this lesson, they will be able to

- Describe the technique for relief of foreign-body airway obstruction for an adult or a child
- Describe the technique for relief of foreign-body airway obstruction for an infant

Choose which provider option to play for this lesson by selecting the in-facility or prehospital icon.

Instructor Tip

Tell students that if they would like additional information on relief of choking, they can review “Part 9: Choking Relief for Adults, Children, and Infants” in the online course Provider Manual.



Discussion

Review adult and child choking with students by asking the following:

- What is the difference between mild and severe airway block?
 - Mild airway block: The person
 - Can talk or make sounds
 - Can cough loudly
 - Severe airway block: The person
 - Cannot breathe, talk, or make sounds, or
 - Has a cough that has no sound, or
 - Makes the choking sign
- What is the universal sign for choking?
 - Holding the neck with one or both hands
- Where should you give thrusts for a severely choking adult?
 - Slightly above the belly button for abdominal thrusts
 - For a large or pregnant person or a person in a wheelchair: on the lower half of the breastbone for chest thrusts
- Why is it important not to perform a blind finger sweep in a choking person?
 - The object could become lodged farther back in the airway.
- Where should you give thrusts for a severely choking child?
 - Slightly above the belly button for abdominal thrusts
 - For a large child: on the lower half of the breastbone for chest thrusts

- What is different about your body position when you give thrusts to a child vs when you give thrusts to an adult?
 - You may need to kneel to perform thrusts on a child, because of the child’s size.

If students would like to practice their hand placement for abdominal thrusts for the relief of choking in an adult, students can place their hands on themselves while you watch and confirm hand placement.



Play Video

The video will show and discuss

Demonstration: Relief of Choking in a Responsive Infant

- Have students position themselves to watch the demonstration.
 - After the demonstration, students will practice the relief of choking on a responsive infant and will complete 1 set of 5 back slaps and 5 chest thrusts.
-



Practice While Watching: Relief of Choking in a Responsive Infant

- Students will follow along with the video to complete the following steps:
 - Step 1: Kneel or sit with the infant in your lap.
 - Step 2: If it is easy to do, remove clothing from the infant’s chest.
 - Step 3: Hold the infant facedown, with the head slightly lower than the chest, resting on your forearm. Support the infant’s head and jaw with your hand. Take care to avoid compressing the soft tissues of the infant’s throat. Rest your forearm on your lap or thigh to support the infant.
 - Step 4: Deliver up to 5 back slaps forcefully between the infant’s shoulder blades, using the heel of your hand. Deliver each slap with sufficient force to attempt to dislodge the foreign body.
 - Step 5: After delivering up to 5 back slaps, place your free hand on the infant’s back, supporting the back of the infant’s head with the palm of your hand. The infant will be adequately cradled between your 2 forearms, with the palm of one hand supporting the face and jaw while the palm of the other hand supports the back of the infant’s head.
 - Step 6: Turn the infant as a unit while carefully supporting the head and neck. Hold the infant faceup, with your forearm resting on your thigh. Keep the infant’s head lower than the trunk.
 - Step 7: Provide up to 5 quick downward chest thrusts in the middle of the chest, over the lower half of the breastbone (same as for chest compressions during CPR). Deliver chest thrusts at a rate of about 1 per second, each with the intention of creating enough force to dislodge the foreign body.
 - Step 8: Repeat the sequence of up to 5 back slaps and up to 5 chest thrusts until the object is removed or the infant becomes unresponsive.

- Observe students and provide positive and corrective feedback on their performance.
 - Repeat the practice-while-watching segment as many times as needed for all students to complete the practice session.
-



Stop Video

- Have students return to their seats for the conclusion of the course.

Lesson 9

Conclusion

2 minutes

Instructor Tips

- When summarizing what the course has covered, allow students to lead this discussion at times by asking 1 or 2 students (maximum, for class time efficiency) what they observed/learned during the course.
 - During the summary and closing, provide students with clear direction on how they can further study and seek out additional resources provided by the AHA to help with postclassroom training.
-



Discussion

To conclude the course, discuss the following with students:

- Thank students for their participation.
- Summarize what students learned during the course. Refer to the HeartCode BLS Outline found in “Part 2: Teaching the Course” in the Instructor Manual.
- Ask students if they have any questions before skills testing.
- Remember: Students taking HeartCode BLS will complete their evaluation form during the online portion of the course, before the classroom portion.

Lesson 10

Adult CPR and AED Skills Test

18 minutes

Optional: This Adult CPR and AED Skills Test can also be completed at the end of “Lesson 4: High-Performance Teams Activity.”

Instructor Tips

- For skills testing, it is important to be prepared and organized with student skills testing checklists. Review these before class, and have all materials ready to properly test students on every step.
- **To help students prepare, make sure they have access to and are able to review the skills testing checklist before skills testing.**



Discussion

Before the Adult CPR and AED Skills Test, read the following testing script aloud to the student (may be read to all students at once):

“This test is like a realistic emergency situation: you should do whatever you think is necessary to save the victim’s life. You will have to determine for yourself what you need to do. For example, if you check the response on the manikin and there is no response, then you should do whatever you would do for a person who is not responding. I will read a short scenario to you, but I won’t be able to answer any questions. You can treat me like another healthcare provider who has arrived with you and tell me to do something to help you. If you make a mistake or forget to do something important, you should not stop. Just do your best to correct the error. Continue doing what you would do in an actual emergency until I tell you to stop. Do you have any questions before we start?”



Skills Test

- Refer to the Adult CPR and AED Skills Testing Checklist for specific direction on how to test students on adult BLS skills. This is found in “Part 3: Testing and Remediation” in the Instructor Manual.
 - Check off each skill as the student demonstrates competency per the critical skills descriptors.
- After starting, if the student asks any questions about BLS skills or sequences, you should not give him or her the answer. Rather, tell the student, “Do what you think is best right now.” If the student asks questions about what to do with the manikin, tell the student, “Check the manikin yourself and do what you think is needed to save a life.” If the student seems unsure, do your best to explain that he or she will be assessing the manikin and doing whatever is necessary.

Remediation

For students who need remediation, follow these steps and refer to Lesson 12: Remediation:

- Determine where the students are having trouble during their Adult CPR and AED Skills Test.
- If needed, replay sections of video or practice skills to reinforce learning.
- Retest skills as necessary.
- Some students may need additional practice or may need to repeat the course to demonstrate skills competency and to achieve a course completion card.

Lesson 11

Infant CPR Skills Test

18 minutes

Optional: This Infant CPR Skills Test can also be completed at the end of Lesson 6: Infant CPR.

Instructor Tips

- For skills testing, it is important to be prepared and organized with student skills testing checklists. Review these before class, and have all materials ready to properly test students on every step.
- **To help students prepare, make sure they have access to and are able to review the skills testing checklist before skills testing.**



Discussion

Before the Infant CPR Skills Test, read the following testing script aloud to the student (may be read to all students at once):

“This test is like a realistic emergency situation: you should do whatever you think is necessary to save the victim’s life. You will have to determine for yourself what you need to do. For example, if you check the response on the manikin and there is no response, then you should do whatever you would do for a person who is not responding. I will read a short scenario to you, but I won’t be able to answer any questions. You can treat me like another healthcare provider who has arrived with you and tell me to do something to help you. If you make a mistake or forget to do something important, you should not stop. Just do your best to correct the error. Continue doing what you would do in an actual emergency until I tell you to stop. Do you have any questions before we start?”



Skills Test

- Refer to the Infant CPR Skills Testing Checklist for specific direction on how to test students on infant BLS skills. This is found in “Part 3: Testing and Remediation” in the Instructor Manual.
 - Check off each skill as the student demonstrates competency per the critical skills descriptors.
- After starting, if the student asks any questions about BLS skills or sequences, you should not give him or her the answer. Rather, tell the student, “Do what you think is best right now.” If the student asks questions about what to do with the manikin, tell the student, “Check the manikin yourself and do what you think is needed to save a life.” If the student seems unsure, do your best to explain that he or she will be assessing the manikin and doing whatever is necessary.

Remediation

For students who need remediation, follow these steps and refer to Lesson 12: Remediation:

- Determine where the students are having trouble during their Infant CPR Skills Test.
- If needed, replay sections of video or practice skills to reinforce learning.
- Retest skills as necessary.
- Some students may need additional practice or may need to repeat the course to demonstrate skills competency and to achieve a course completion card.

Lesson 12

Remediation

Instructor Tips

- Use the formal remediation lesson if a student did not pass the skills testing during the course.
 - For further detail on remediation and retesting students, refer to “Part 3: Testing and Remediation” in the Instructor Manual.
 - As an instructor, you will need to determine which section of the course the student is having trouble with.
-



Play Video: Skills Testing Remediation

- Replay scenarios, instruction, and/or practice-while-watching segments of the video as needed to reinforce learning and for the student to have additional practice.
 - Repeat practice until the student feels comfortable and is ready to move forward with the skills test.
 - Some students may need additional practice or may need to repeat the course to demonstrate skills competency and to achieve a course completion card.
 - Formal remediation should occur if all boxes on the skills testing checklist are not checked as complete.
-



Skills Test

- Retest BLS skills as necessary by using the skills testing checklists. Refer to Lessons 10 and 11 for additional instructions on administering the skills tests.

Postcourse

Immediately After the Course

At the end of each class:

- Collect and arrange all course paperwork.
- Rearrange the room.
- Clean and store equipment.
- Fill out Training Center course report forms.
- Read and consider comments from course evaluations.
- Send students course completion cards if not already distributed.
 - Reminder: Student course completion cards must be issued to students within 20 business days after completing a class. You must submit the paperwork to your Training Center after the completion of the course for cards to be sent to students within this time frame.

