

Lesson ACLS-HeartCode T1

Testing Station: HeartCode ACLS

Competency Testing

12 to 75 minutes

Instructor Tips

- This section provides a great way to further engage the students
- Change the inflection in your voice and also change your pace to help change the energy level in the room
- Allow students to work together, and be prepared to answer questions
- Make sure that each student has successfully mastered all of the skills before you move forward with the skills test
- **Conduct testing station cases in real time (do not skip the case scenario)**



Skills Test

- Conduct high-quality BLS skills testing, airway management with OPA/NPA insertion skills testing, and Megacode Testing
- Follow ACLS Lesson Plans T2 through T4
- Testing details:
 - Test each student on high-quality BLS and airway management with OPA/NPA insertion
 - Test each student with a team (at least 3 students) for Megacode
 - Each student must demonstrate the entire sequence for high-quality BLS, airway management with OPA/NPA insertion, and Megacode without instructor prompting
 - Carefully observe the student during testing
 - Do not coach or give hints during the test
 - Fill out the Adult High-Quality BLS and Airway Management Skills Testing Checklists and the Megacode Testing Checklist
 - Refer the student for remediation if the test is unsuccessful
- If necessary, retest student(s) 1 additional time; if a student does not pass the test the second time, refer them for remediation

Lesson ACLS-Traditional 2*

Systems of Care

10 minutes

Learning Objective

- Define *systems of care*

Instructor Tips

- Ask students to use the provider manual in this section to help further engage them and help with retention of information
- Make sure not to interrupt the video if you have any comments to add; write them down and discuss them at the end of the video. Students do not learn well when they are trying to listen to 2 things at once



Play Systems of Care Video

- Ask students to open the provider manual to Part 1
- Play the video



Discussion

- Answer students' questions from the video
- Review and define Systems of Care
 - Discuss benefits and ways to improve
- Discuss the AHA Chain of Survival in relation to local protocol
- Highlight that a victim's survival depends on the entire systems of care working together in a timely fashion.

*Optional lesson plans for use with the Sample Agenda for ACLS Traditional Course. **These lessons must be added if using the ACLS Traditional Course agenda.**

Lesson ACLS-Traditional 3

Learning Station: The Science of Resuscitation

15 minutes

This video lesson focuses on the key science that drives increased patient survival

Instructor Tips

- Transitional language: After showing the video, be sure to provide language that helps students with the transition back to teaching, such as a recap of what the video covered and what is next
- When reviewing the material presented in the video with students, ask leading questions to help facilitate discussion; avoid lecturing



Play Science of Resuscitation Video

In a large group or small groups:



- Introduce the video The Science of Resuscitation
- Play the video
- Discuss high-quality BLS and feedback devices
- Answer questions
- Review/summarize key points

Lesson ACLS-Traditional 4

Systematic Approach

15 minutes

Learning Objective

- Apply the BLS, Primary and Secondary Assessment sequence for a systematic evaluation of adult patients

Instructor Tips

- Ask students to use the provider manual in this section to help further engage them and help with retention of information
- Make sure not to interrupt the video if you have any comments to add; write them down and discuss them at the end of the video. Students do not learn well when they are trying to listen to 2 things at once



Play Systematic Approach Video

- Ask students to open the provider manual to Part 1
- Play the video



Discussion

- Answer students' questions from the video
- Remind students that they will be functioning as Team Leader and different members as they rotate through the learning and testing stations
- Review and summarize key points (See Tables 17 and 18)

Table 17. BLS Assessment

Assessment	Assessment technique and action
Check for responsiveness.	<ul style="list-style-type: none"> • Tap and shout, "Are you OK?"
Shout for nearby help/activate the emergency response system and get the AED/defibrillator.	<ul style="list-style-type: none"> • Shout for nearby help. • Activate the emergency response system. • Get an AED if one is available, or send someone to activate the emergency response system and get an AED or defibrillator.
Check breathing and pulse.	<ul style="list-style-type: none"> • To check for absent or abnormal breathing (no breathing or only gasping), scan the chest for rise and fall for at least 5 but no more than 10 seconds. • Check the pulse for at least 5 but no more than 10 seconds. • Perform the pulse check simultaneously with the breathing check within 10 seconds to minimize delaying CPR. • If you find no breathing and no pulse within 10 seconds, start CPR, beginning with chest compressions. • If you find a pulse, start rescue breathing at 1 breath every 6 seconds. Check pulse about every 2 minutes.
Defibrillate.	<ul style="list-style-type: none"> • If pulse is not felt, check for a shockable rhythm with an AED/defibrillator as soon as it arrives. • Provide shocks as indicated. • Follow each shock immediately with CPR, beginning with compressions.

Table 18. Primary Assessment

Assessment	Assessment technique and action
Airway <ul style="list-style-type: none"> • Is the patient's airway patent? • Is an advanced airway indicated? • Have you confirmed proper placement of the airway device? • Is the tube secured, and are you reconfirming placement frequently and with every transition? 	<ul style="list-style-type: none"> • Maintain an open airway in unconscious patients by using a head tilt–chin lift, an oropharyngeal airway, or a nasopharyngeal airway. • Use advanced airway management if needed (eg, laryngeal mask airway, laryngeal tube, endotracheal tube). <ul style="list-style-type: none"> – Weigh the benefits of placing an advanced airway against the adverse effects of interrupting chest compressions. If bag-mask ventilation is adequate, you may defer inserting an advanced airway until the patient does not respond to initial CPR and defibrillation or until ROSC. Advanced airway devices such as a laryngeal mask airway, a laryngeal tube, or an esophageal-tracheal tube can be placed while chest compressions continue. – If using advanced airway devices: <ul style="list-style-type: none"> ▪ Confirm the proper integration of CPR and ventilation ▪ Confirm the proper placement of advanced airway devices by physical examination and quantitative waveform capnography ▪ Secure the device to prevent dislodgment ▪ Monitor airway placement, effectiveness of CPR, and ROSC with continuous quantitative waveform capnography

Assessment	Assessment technique and action
<p>Breathing</p> <ul style="list-style-type: none"> • Are ventilation and oxygenation adequate? • Are quantitative waveform capnography and oxyhemoglobin saturation monitored? 	<ul style="list-style-type: none"> • Give supplemental oxygen when indicated. <ul style="list-style-type: none"> – For cardiac arrest patients, administer 100% oxygen. – For others, adjust the oxygen administration to achieve oxygen saturation of 95% to 98% by pulse oximetry (90% for ACS and 92% to 98% for post-cardiac arrest care). • Monitor the adequacy of ventilation and oxygenation by <ul style="list-style-type: none"> – Clinical criteria (chest rise and cyanosis) – Quantitative waveform capnography – Oxygen saturation – Avoid excessive ventilation
<p>Circulation</p> <ul style="list-style-type: none"> • Are chest compressions effective? • What is the cardiac rhythm? • Is defibrillation or cardioversion indicated? • Has intravenous (IV)/intraosseous (IO) access been established? • Is ROSC present? • Is the patient with a pulse unstable? • Are medications needed for rhythm or blood pressure? • Does the patient need volume (fluid) for resuscitation? 	<ul style="list-style-type: none"> • Monitor CPR quality. <ul style="list-style-type: none"> – Quantitative waveform capnography (if the partial pressure of CO₂ in exhaled air at the end of the exhalation phase, or PETCO₂, is less than 10 mm Hg, attempt to improve CPR quality). Waveform capnography should be as high as possible with improved CPR quality. Continuous quantitative waveform capnography provides an indirect measure of cardiac output during chest compressions because the amount of carbon dioxide exhaled is associated with the amount of blood that passes through the lungs. An ETCO₂ less than 10 mm Hg during chest compressions rarely results in ROSC. – A sudden increase in ETCO₂ to more than 25 mm Hg may indicate ROSC. – Intra-arterial pressure (if relaxation phase [diastolic] pressure is less than 20 mm Hg, attempt to improve CPR quality). Intra-arterial pressure should be as high as possible with improved CPR quality. If intra-arterial pressure monitoring is available, strive to optimize blood pressure. Relaxation phase (diastolic) pressures less than 20 during chest compressions rarely results in ROSC. • Attach monitor/defibrillator for arrhythmias or cardiac arrest rhythms (eg, VF, pVT, asystole, PEA). • Provide defibrillation/cardioversion. • Obtain IV/IO access. • Give appropriate drugs to manage rhythm and blood pressure. • Give IV/IO fluids if needed. • Check glucose and temperature. • Check perfusion issues.
<p>Disability</p>	<ul style="list-style-type: none"> • Check for neurologic function. • Quickly assess for responsiveness, levels of consciousness, and pupil dilation. • AVPU: Alert, Voice, Painful, Unresponsive
<p>Exposure</p>	<ul style="list-style-type: none"> • Remove clothing to perform a physical examination. • Look for obvious signs of trauma, bleeding, burns, unusual markings, or medical alert bracelets.

Secondary Assessment

- Focused medical history (SAMPLE)
- H's and T's

Lesson ACLS-Traditional 5

CPR Coach

10 minutes

Instructor Tips

- Ask students to use the provider manual in this section to help further engage them and help with retention of information
- Make sure not to interrupt the video if you have any comments to add; write them down and discuss them at the end of the video. Students do not learn well when they are trying to listen to 2 things at once



Play CPR Coach Video

- Ask students to open the provider manual to Part 3
- Play the video



Discussion

- Answer students' questions from the video
- Remind students that they will be functioning as a CPR Coach during the CPR and Airway Management stations throughout the class
- Review and summarize key points (See *ACLS Provider Manual*)

Lesson ACLS-Traditional 6

Learning Station: Recognition: Signs of Clinical Deterioration

10 minutes

This video lesson focuses on preventing arrest

Instructor Tips

- Transitional language: After showing the video, be sure to provide language that helps students with the transition back to teaching, such as a recap of what the video covered and what is next
- When reviewing the material presented in the video with students, ask leading questions to help facilitate discussion; avoid lecturing



Play Recognition: Signs of Clinical Deterioration

In a large group or small groups:

- Introduce the video Recognition: Signs of Clinical Deterioration
- Play the video



Discussion

- Review and define MET/RRT for in-hospital cardiac arrest (optional for EMS)
- Answer questions
- Review/summarize key points