ACLS TEAM LEADER COMPANION WORKBOOK

Based on 2025 AHA Guidelines for CPR and ECC

Advanced Cardiovascular Life Support

AUDIENCE	ALIGNED WITH	FOCUS
ACLS Provider Candidates	**2025 AHA ECC Guidelines**	**Megacode Testing Success**

Practice-focused. Team Leader-directed. Megacode-ready.

Content based on 2025 AHA Guidelines for CPR and ECC. For educational use only.

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Section 1: The First 30 Seconds — Taking Control

The initial moments of a cardiac arrest are chaotic. A strong Team Leader brings order to this chaos immediately. The 2025 AHA Guidelines emphasize that designated code teams with clearly defined roles and effective communication are directly associated with improved patient outcomes. This section focuses on the critical actions you must take within the first 30 seconds of arriving at the scene.

1.1 The 10-Second Role Assignment Drill

As Team Leader, you must assign all six core team roles in under 10 seconds. Hesitation leads to confusion, task duplication, and delayed care. The six roles are: **Team Leader** (you), **Compressor**, **Airway Manager**, **Monitor/Defibrillator Operator**, **IV/IO and Medications**, and **Timer/Recorder**. Practice the script below out loud. Time yourself. Repeat until it is automatic.

Role	Primary Responsibility
Team Leader	Orchestrates the resuscitation. Assigns roles, makes all treatment decisions, monitors performance, and ensures team and patient safety. Stands at the foot of the bed.
Compressor	Performs high-quality chest compressions at 100-120/min, depth ≥2 inches. Rotates with another team member every 2 minutes (at the rhythm check) to prevent fatigue.
Airway Manager	Maintains a patent airway, provides bag-mask ventilation using the two-person E-C clamp technique, and inserts an advanced airway when indicated. Confirms placement with waveform capnography and monitors ETCO2 continuously.
Monitor/Defibrillator	Applies defibrillator pads, analyzes the rhythm, and delivers shocks as directed. Must know how to activate/deactivate SYNC mode and perform the safety check before every shock.
IV/IO & Medications	Establishes IV or IO access and administers all medications as ordered. Follows every drug with a 20 mL normal saline flush and elevation of the extremity.
Timer/Recorder	Documents every intervention with a precise timestamp. Announces upcoming events: "Epinephrine due in 30 seconds," "Rhythm check in 1 minute." Keeps the team on algorithm time.

> *Practice Script: "Listen up — I am the Team Leader. [Name], you start compressions. [Name], manage the airway. [Name], get the monitor and pads on. [Name], get IV access and be ready for meds. [Name], you are the recorder — start the clock now. Let's go!"*

Your Turn: Write Your Own Role Assignment Script

Write your own version of the role assignment script below. Use your team members' names if practicing in a group. Then practice saying it out loud until you can deliver it in under 10 seconds.

1.2 Closed-Loop Communication Practice

Closed-loop communication is the structured method of giving and confirming orders that eliminates ambiguity and prevents medication errors. It consists of four steps that must be completed for every order given during a resuscitation: the Team Leader gives the order using the team member's name; the team member repeats the order back verbatim; the Team Leader confirms the order is correct; and the team member reports when the task is complete.

Step	Who	What to Say
1	**Team Leader**	"Marcus, give 1 mg of Epinephrine IV push now."
2	**Team Member**	"I am giving 1 mg of Epinephrine IV push."
3	**Team Leader**	"Correct. Go ahead."
4	**Team Member**	"1 mg of Epinephrine has been given. Time is 14:32."

Practice: Write Out the Full Communication Loop

For each scenario below, write out the complete four-step closed-loop communication dialogue.

Scenario A: You need to give the first dose of Epinephrine.

Scenario B: You need to give the first antiarrhythmic for refractory VF.

Scenario C: You need to deliver a synchronized cardioversion for unstable SVT.

1.3 Initial Actions Checklist

Use this checklist to confirm you are covering all critical first steps.

- ☐ Check for responsiveness: Tap and shout, "Are you OK?"
- ☐ Activate the emergency response system: Shout for help, direct someone to call the code.
- ☐ Check for breathing and pulse simultaneously (5-10 seconds).
- ☐ If no pulse: Immediately direct high-quality CPR to begin.
- ☐ Assign all six team roles clearly within 10 seconds.
- ☐ Direct the Timer/Recorder to start the clock.

- [ ] Direct the Monitor/Defibrillator to apply pads immediately.
- [ ] Direct IV/IO access to be established.

Section 2: Rhythm Recognition & Action Drills

Rapid, accurate rhythm identification is the foundation of the Megacode. You must be able to identify the six key rhythms within seconds and immediately determine the correct treatment pathway. This section tests your ability to not only recognize each rhythm but also to immediately state the correct initial action as a Team Leader. For each rhythm drill, analyze the ECG strip and answer all four questions. Say your verbal order out loud to simulate a real code.

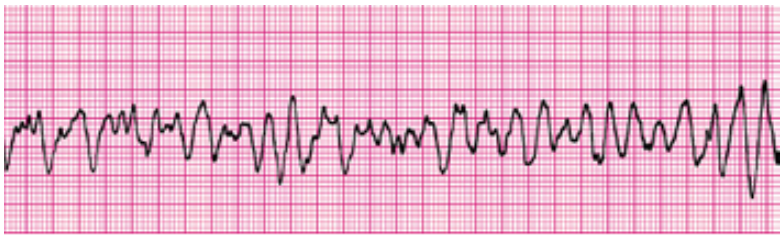
2.1 The Six Megacode Rhythms — Quick Reference

Rhythm	Key ECG Features	Pulse?	Shockable?
Ventricular Fibrillation (VF)	Chaotic, disorganized baseline. No identifiable P waves, QRS, or T waves.	No	**YES**
Pulseless VT (pVT)	Wide QRS (>0.12s), regular, rate 150-250 bpm. Organized but no pulse.	No	**YES**
Asystole	Flat line. No electrical activity. Confirm in 2 leads.	No	No
PEA	Any organized rhythm (sinus, brady, etc.) with NO palpable pulse.	No	No
Symptomatic Bradycardia	Rate <60 bpm. P waves usually present. Patient is hemodynamically unstable.	Yes	No (Pace)
Symptomatic Tachycardia	Rate >150 bpm. Narrow or wide QRS. Patient is unstable (hypotension, AMS, etc.).	Yes	Cardiovert

2.2 Rhythm Drills

For each rhythm strip below, answer all four questions. Write your answers in the boxes provided. Then check your answers against the Answer Key at the end of this section.

Rhythm Drill 1



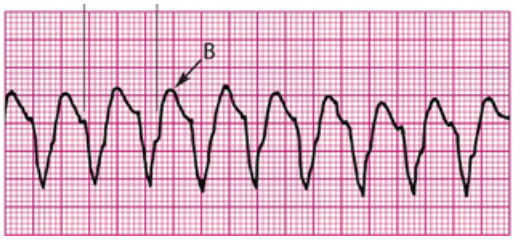
1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 2



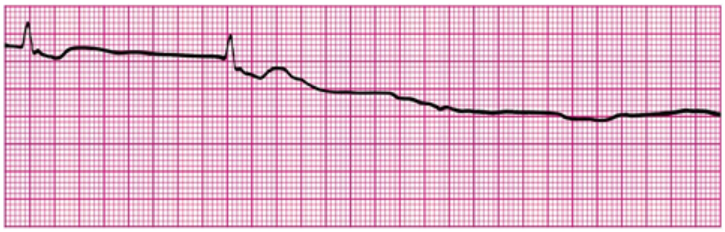
1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 3



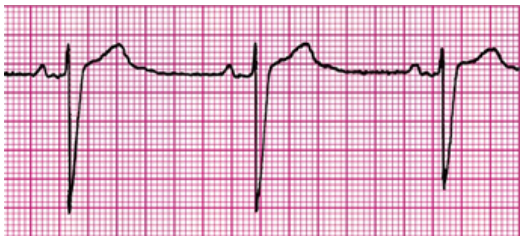
1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 4



1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 5

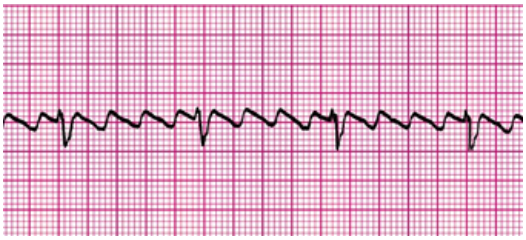
1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 6



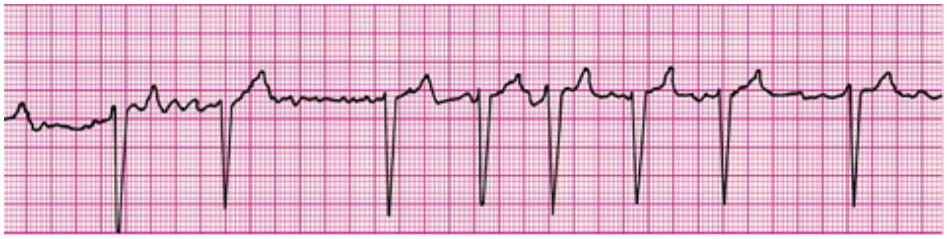
1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 7



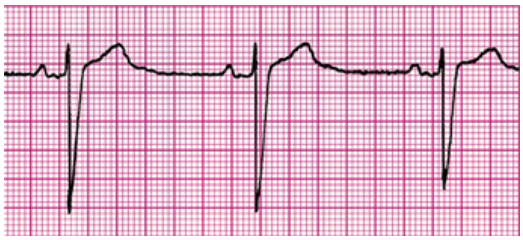
1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 8



1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 9

1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 10

1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

Rhythm Drill 11

1. Rhythm: _____

2. Pulse: _____

3. Shockable: _____

4. Verbal Order: _____

2.3 Rhythm Drill Answer Key

Review your answers against the correct responses below.

Answer Key — Drill 1

Rhythm: Ventricular Fibrillation (VF)

Pulse: No

Shockable: YES — Defibrillate immediately

Verbal Order: "This is VF. Charge to 200 joules. Continue compressions."

Answer Key — Drill 2

Rhythm: Pulseless Ventricular Tachycardia (pVT)

Pulse: No

Shockable: YES — Defibrillate immediately

Verbal Order: "This is pVT. Charge to 200 joules. Continue compressions."

Answer Key — Drill 3

Rhythm: Asystole

Pulse: No

Shockable: No — Do NOT shock

Verbal Order: "This is asystole. Continue high-quality CPR. Give Epinephrine 1 milligram IV now."

Answer Key — Drill 4

Rhythm: Pulseless Electrical Activity (PEA)

Pulse: No

Shockable: No — Do NOT shock

Verbal Order: "This is PEA. Continue high-quality CPR. Give Epinephrine 1 milligram IV now. Let\'s find the cause - check the H\'s and T\'s."

Answer Key — Drill 5

Rhythm: Polymorphic VT (Torsades de Pointes)

Pulse: No

Shockable: YES — Defibrillate immediately

Verbal Order: "This is Torsades. Defibrillate at 200J. Prepare Magnesium Sulfate 2 grams IV."

Answer Key — Drill 6

Rhythm: Atrial Flutter (Unstable Tachycardia)

Pulse: Yes

Shockable: Yes — Cardiovert if UNSTABLE

Verbal Order: (Unstable): "This is unstable tachycardia. Set to SYNC mode, 50-100 joules. Everyone clear — CARDIOVERT."

Answer Key — Drill 7

Rhythm: Atrial Fibrillation (with RVR)

Pulse: Yes

Shockable: Cardiovert if UNSTABLE

Verbal Order: (Unstable): "Unstable A-Fib. Synchronized cardioversion at 120-200J." (Stable): "Control the rate. Consider Diltiazem or a beta-blocker."

Answer Key — Drill 8

Rhythm: Sinus Bradycardia (Symptomatic)

Pulse: Yes

Shockable: No — Treat medically / Pace

Verbal Order: "This is symptomatic bradycardia. Give Atropine 1 milligram IV push. Get the pacer pads on."

Answer Key — Drill 9

Rhythm: First-Degree AV Block

Pulse: Yes

Shockable: No

Verbal Order: "This is a first-degree AV block. It is typically benign. Continue to monitor the patient. No immediate intervention required unless they are symptomatic."

Answer Key — Drill 10

Rhythm: Second-Degree AV Block, Type II

Pulse: Yes

Shockable: No — Prepare to Pace

Verbal Order: "This is a Mobitz II block. It can progress to complete heart block. Get the pacer pads on the patient and prepare for transcutaneous pacing."

Answer Key — Drill 11

Rhythm: Third-Degree (Complete) AV Block

Pulse: Yes

Shockable: No — Must Pace

Verbal Order: "This is a third-degree block. The patient needs a pacemaker. Initiate transcutaneous pacing immediately. Call for cardiology consult."

Section 3: Megacode Decision Pathways

Knowing the individual steps of an algorithm is one thing; executing them in the correct sequence under pressure is another. This section provides step-by-step decision exercises for each major ACLS algorithm. At each decision point, write down your verbal order. Correct answers are provided at the end of each pathway.

3.1 VF / Pulseless VT Pathway

Follow this pathway from initial rhythm recognition through ROSC. At each step, write your verbal order.

STEP 1 — Initial Rhythm Check

Question: The monitor shows VF. You confirm no pulse. What is your immediate order?

STEP 2 — After the First Shock

Question: You deliver the shock. CPR immediately resumes. What is your immediate verbal order to the team?

STEP 3 — Rhythm Check #2 (2 min)

Question: Still VF. What are your two orders right now?

STEP 4 — Rhythm Check #3 (4 min)

Question: Still VF. Epinephrine has been given. What antiarrhythmic drug, dose, and route do you order?

STEP 5 — Rhythm Check #4 (6 min)

Question: Still VF. What is the second dose of the antiarrhythmic you give?

STEP 6 — ROSC

Question: The rhythm changes to a sinus rhythm with a palpable pulse. What are your first three post-ROSC orders?

Answer Key: Step 1: "Charge to 200J, continue CPR." Step 2: "Resume CPR immediately." Step 3: "Charge to 200J, give Epinephrine 1 mg IV." Step 4: "Give Amiodarone 300 mg IV push." Step 5: "Give Amiodarone 150 mg IV push." Step 6: "Manage airway, get 12-lead ECG, target SpO2 92-98%, SBP >90 mmHg."

3.2 Asystole / PEA Pathway

Follow this pathway for a non-shockable cardiac arrest. At each step, write your verbal order.

STEP 1 — Initial Rhythm Check

Question: The monitor shows asystole (or PEA). You confirm no pulse. What is your immediate order?

STEP 2 — While CPR is Running

Question: CPR is in progress. What is the most important task to perform in the next 2 minutes?

STEP 3 — Rhythm Check #2 (2 min)

Question: Rhythm is unchanged. No pulse. What is your next order?

STEP 4 — Rhythm Check #3 (4 min)

Question: Rhythm changes to VF. What do you do now?

Answer Key: Step 1: "Continue CPR, give Epinephrine 1 mg IV push." Step 2: "Identify and treat reversible causes using the H\"s and T\"s." Step 3: "Continue CPR, give Epinephrine 1 mg IV push (every 3-5 min)." Step 4: "VF identified — charge to 200J, continue CPR until charged, then SHOCK."

3.3 Symptomatic Bradycardia Pathway

The patient has a pulse but is hemodynamically unstable due to a slow heart rate.

STEP 1 — Identify the Problem

Question: HR is 38 bpm. BP is 70/40. Patient is diaphoretic and confused. What is your first order?

STEP 2 — Atropine Fails

Question: Atropine 1 mg IV given x2. HR is now 45 bpm. BP remains 72/40. What is your next intervention?

STEP 3 — Pacing

Question: You initiate transcutaneous pacing. How do you know it is working? What are you looking for?

Answer Key: Step 1: "Give Atropine 1 mg IV push. Get pacer pads on." Step 2: "Initiate transcutaneous pacing. Start at 60 ppm, increase mA until capture." Step 3: Look for a pacing spike followed by a wide QRS (electrical capture) AND a palpable pulse (mechanical capture).

3.4 Symptomatic Tachycardia Pathway

The patient has a pulse but is hemodynamically unstable due to a rapid heart rate.

STEP 1 — Assess Stability

Question: HR is 178 bpm. BP is 78/40. Patient is unresponsive to voice. Is this stable or unstable? What is your first order?

STEP 2 — Cardioversion

Question: You prepare to cardiovert. The rhythm is narrow-complex and regular. What energy level do you select? What mode?

STEP 3 — Post-Cardioversion

Question: After cardioversion, the rhythm converts to sinus rhythm at 88 bpm. BP is now 110/70. What do you do next?

Answer Key: Step 1: "This is UNSTABLE. Prepare for synchronized cardioversion." Step 2: "Set to SYNC mode. Narrow-complex regular: start at 50-100J. Wide-complex: start at 100J." Step 3: "Reassess vitals, secure airway, consider sedation if patient is now responsive, monitor continuously."

Section 4: Pharmacology Flashcard Drills

Correctly administering drugs — the right drug, the right dose, at the right time — is a critical Team Leader responsibility. This section provides rapid-fire drills to sharpen your recall of the core ACLS medications. Answer each question as quickly as you can. Say the answers out loud for maximum practice benefit.

4.1 "What's the Drug & Dose?" — Quick-Fire Questions

Q1: The patient is in asystole. IV access is established. What is the first drug and dose?

Q2: VF persists after 2 shocks and 1 dose of Epinephrine. What antiarrhythmic do you give and at what dose?

Q3: After the previous question, VF still persists after another shock. What is the second dose of that antiarrhythmic?

Q4: A patient with a pulse is in stable narrow-complex SVT. Vagal maneuvers failed. What drug and dose do you give first?

Q5: The patient is in symptomatic bradycardia at 38 bpm with BP 72/40. What is the first drug and dose?

Q6: How often do you repeat Epinephrine during cardiac arrest?

Q7: What is the maximum total dose of Atropine you can give for bradycardia?

Q8: After ROSC, the patient is hypotensive with BP 78/50. What vasopressor infusion do you consider?

4.2 Answer Key

A1	Epinephrine 1 mg IV/IO push (10 mL of 1:10,000 solution). Follow with 20 mL NS flush.
A2	Amiodarone 300 mg IV/IO push (first-line antiarrhythmic for refractory VF/pVT).
A3	Amiodarone 150 mg IV/IO push (second dose).
A4	Adenosine 6 mg rapid IV push, followed immediately by a 20 mL NS flush. If no conversion, give 12 mg.
A5	Atropine 1 mg IV push. May repeat every 3-5 minutes to a maximum of 3 mg.
A6	Every 3-5 minutes throughout cardiac arrest.

A7	3 mg total (three doses of 1 mg each, given every 3-5 minutes).
A8	Dopamine infusion at 5-20 mcg/kg/min, titrated to target SBP >90 mmHg.

4.3 ACLS Drug Quick Reference Table

Drug	Indication	Adult Dose	Key Notes
Epinephrine	Cardiac Arrest (all rhythms)	1 mg IV/IO push	Every 3-5 min. 20 mL flush.
Amiodarone	Refractory VF/pVT	300 mg IV/IO push (2nd dose: 150 mg)	First-line antiarrhythmic. Give after 3rd shock.
Lidocaine	Alternative to Amiodarone	1-1.5 mg/kg IV/IO (2nd: 0.5-0.75 mg/kg)	Use if amiodarone unavailable.
Atropine	Symptomatic Bradycardia	1 mg IV push (Max: 3 mg)	Repeat every 3-5 min.
Adenosine	Stable SVT	6 mg rapid IV push (2nd: 12 mg)	Push FAST. Immediate 20 mL flush.
Dopamine	Post-ROSC hypotension / bradycardia	5-20 mcg/kg/min infusion	Titrate to SBP >90 mmHg.

Section 5: Full Megacode Simulations

This is where all the skills come together. In this section, you will run a full Megacode from start to finish. Read each scenario carefully, then write out a complete script of your verbal orders as Team Leader. Be specific — include drug names, doses, defibrillator energy settings, and timing cues. After completing your script, use the official AHA Megacode Testing Checklist to evaluate your performance.

Simulation 1: Witnessed Collapse — VF to ROSC

SCENARIO: A 65-year-old man collapses in the hallway. You are the first to arrive with the code team. The patient is unresponsive, apneic, and pulseless. A team member has started chest compressions. The defibrillator is at the bedside. The monitor is being applied.

PHASE 1 — Initial Actions (0:00)
Prompt: Write your complete opening orders as Team Leader.

PHASE 2 — Rhythm Check #1: VF identified (0:00)
Prompt: Write your complete orders for the first shock cycle.

PHASE 3 — Rhythm Check #2: VF persists (2:00)
Prompt: Write your orders for the second shock cycle, including the first drug.

PHASE 4 — Rhythm Check #3: VF persists (4:00)
Prompt: Write your orders for the third shock cycle, including the antiarrhythmic.

PHASE 5 — Rhythm Check #4: Organized rhythm, pulse present (6:00)
Prompt: Write your complete post-ROSC orders.

Simulation 1: AHA Megacode Testing Checklist

Use this checklist to self-evaluate your performance on Simulation 1.

- [ ] **PATIENT ASSESSMENT**
  - [ ] Checks for responsiveness (taps and shouts)
  - [ ] Activates emergency response system
  - [ ] Checks for breathing and pulse simultaneously (5-10 sec)
- [ ] **CARDIAC ARREST MANAGEMENT**
  - [ ] Ensures high-quality CPR begins immediately
  - [ ] Ensures compressor switches every 2 minutes (at rhythm check)
  - [ ] Minimizes interruptions in chest compressions (<10 sec)
  - [ ] Correctly identifies shockable vs. non-shockable rhythm
  - [ ] Performs safety check and clears before every shock
  - [ ] Immediately resumes CPR after every shock
  - [ ] Administers Epinephrine 1 mg IV/IO every 3-5 minutes
  - [ ] Administers antiarrhythmic (Amiodarone 300 mg) after 3rd shock
- [ ] **TEAM LEADERSHIP**
  - [ ] Assigns all team member roles within 10 seconds
  - [ ] Uses closed-loop communication for all orders
  - [ ] Directs team members by name
  - [ ] Re-evaluates patient and rhythm every 2 minutes
  - [ ] Identifies and treats reversible causes (H's and T's)
  - [ ] Maintains calm, clear command presence throughout
- [ ] **POST-ROSC CARE**
  - [ ] Recognizes ROSC (organized rhythm + palpable pulse)
  - [ ] Manages airway and targets SpO2 92-98%
  - [ ] Manages hemodynamics (targets SBP >90 mmHg)
  - [ ] Avoids hyperventilation (1 breath every 6 seconds)
  - [ ] Directs 12-lead ECG to be obtained
  - [ ] Considers targeted temperature management (TTM)

Simulation 2: Unwitnessed Arrest — PEA to VF to ROSC

SCENARIO: A 58-year-old woman is found unresponsive in her hospital room. She is pulseless and apneic. Her IV is in place. The monitor shows a slow, wide-complex organized rhythm at 30 bpm. Your team is assembled.

PHASE 1 — Initial Actions & Rhythm Check #1: PEA
Prompt: Write your complete orders for managing PEA.

PHASE 2 — Rhythm Check #2: PEA persists (2:00)
Prompt: Write your orders. What reversible causes are you considering?

PHASE 3 — Rhythm Check #3: Rhythm changes to VF (4:00)
Prompt: Write your complete orders for this rhythm change.

PHASE 4 — Rhythm Check #4: VF persists (6:00)
Prompt: Write your orders, including the antiarrhythmic.

PHASE 5 — Rhythm Check #5: Sinus rhythm, pulse present (8:00)
Prompt: Write your post-ROSC orders.

Simulation 3: Symptomatic Bradycardia

SCENARIO: A 72-year-old man with a history of inferior MI presents with dizziness and near-syncope. His HR is 32 bpm, BP is 68/40, and he is diaphoretic. The monitor shows a third-degree AV block.

PHASE 1 — Initial Assessment
Prompt: Write your complete initial orders.

PHASE 2 — Atropine Given x2, Minimal Response
Prompt: HR is now 40 bpm. BP remains 70/44. Write your next orders.

PHASE 3 — Transcutaneous Pacing Initiated
Prompt: Describe the verbal orders you give to initiate pacing and how you confirm capture.

Simulation 4: Unstable Tachycardia

SCENARIO: A 48-year-old woman presents with palpitations and chest pain. Her HR is 192 bpm, BP is 80/50, and she is diaphoretic and anxious. The monitor shows a narrow-complex, regular tachycardia.

PHASE 1 — Initial Assessment
Prompt: Write your complete initial orders. Is this stable or unstable?

PHASE 2 — Prepare for Cardioversion
Prompt: Write your complete verbal orders for preparing and delivering synchronized cardioversion.

PHASE 3 — Post-Cardioversion
Prompt: The rhythm converts to sinus at 88 bpm. BP is 118/72. Write your post-cardioversion orders.

Section 6: Airway Management Challenge

Effective airway management is a cornerstone of ACLS. The Team Leader must be able to direct airway interventions with precision, knowing when to escalate from basic to advanced airway management. This section challenges you to apply the official AHA Airway Management Skills Testing Checklist in a dynamic scenario.

SCENARIO: You are called to the bedside of a 70-year-old female patient who is lethargic and having difficulty breathing. Her SpO2 is 85% on a non-rebreather mask. She has a weak cough and audible gurgling sounds with each breath. As you assess her, she becomes unresponsive and stops breathing, but you can still feel a slow, weak carotid pulse.

6.1 Initial Airway Decisions

Q1: What is your immediate first action to open the airway?

Q2: What airway adjunct do you insert first, and why?

Q3: How do you provide ventilations? What rate, volume, and technique do you use?

Q4: How do you confirm that ventilations are effective?

Q5: When would you escalate to an advanced airway (e.g., supraglottic airway or ETT)?

6.2 Airway Management Skills Testing Checklist (2025 AHA)

This checklist is adapted from the official 2025 AHA Airway Management Skills Testing Checklist. Use it to self-evaluate your performance on the scenario above.

- ☐ **BLS ASSESSMENT AND INTERVENTIONS**
  - ☐ Checks for responsiveness (taps and shouts, "Are you OK?")
  - ☐ Activates the emergency response system
  - ☐ Checks breathing (scans chest for movement, 5-10 seconds)
  - ☐ Checks pulse (5-10 seconds) — breathing and pulse check can be done simultaneously
  - ☐ Notes that pulse is present and does NOT initiate chest compressions or attach AED

- [ ] Inserts oropharyngeal or nasopharyngeal airway
- [ ] Administers oxygen

- [ ] **BAG-MASK VENTILATION (1 MINUTE)**
  - [ ] Gives proper ventilation rate (once every 6 seconds)
  - [ ] Gives proper ventilation speed (over 1 second)
  - [ ] Gives proper ventilation volume (about half a bag — visible chest rise)

KEY PRINCIPLE: Ventilating once every 4 seconds or less, or once every 8 seconds or more, does NOT pass the AHA Airway Management Skills Testing Checklist. The correct rate is once every 6 seconds.

Appendix: Core Reference Tables

A.1 The H's and T's — Reversible Causes of Cardiac Arrest

During any non-shockable arrest (PEA or Asystole), the Team Leader must direct the team to identify and treat reversible causes. The H's and T's mnemonic provides a systematic framework for this search. For each cause, a specific intervention exists.

Cause	Clinical Clue	Intervention
Hypovolemia	Flat neck veins, history of bleeding or dehydration	Rapid IV/IO fluid bolus
Hypoxia	Cyanosis, low SpO2, poor airway management	Ensure patent airway, 100% O2, effective ventilation
Hydrogen Ion (Acidosis)	History of DKA, renal failure, prolonged arrest	Sodium bicarbonate 1 mEq/kg IV; hyperventilation
Hypo-/Hyperkalemia	History of renal failure, dialysis, peaked T waves (hyperK)	Calcium chloride (hyperK); potassium replacement (hypoK)
Hypothermia	Cold environment, core temp <30°C	Active rewarming; continue CPR until warm
Tension Pneumothorax	Absent breath sounds unilaterally, tracheal deviation, JVD	Needle decompression (2nd ICS, MCL); chest tube
Tamponade, Cardiac	JVD, muffled heart sounds, hypotension (Beck's Triad)	Pericardiocentesis
Toxins	History of overdose, ingestion, or toxic exposure	Specific antidote (e.g., Naloxone for opioids)
Thrombosis, Pulmonary	Sudden onset, risk factors for PE, S1Q3T3 on ECG	Thrombolytics, surgical embolectomy
Thrombosis, Coronary	History of chest pain, ST elevation on 12-lead	Emergent PCI (cath lab activation)

A.2 Post-Cardiac Arrest Care Targets

After achieving ROSC, the Team Leader must direct a systematic post-arrest care bundle. The following targets are based on the 2025 AHA Guidelines.

Parameter	Target	Clinical Notes
Oxygen Saturation (SpO2)	92% – 98%	Avoid hyperoxia. Titrate FiO2 to maintain target.

PaCO2	35 – 45 mmHg	Monitor with waveform capnography. Avoid hyperventilation.
Systolic BP	> 90 mmHg	Use vasopressors (Dopamine, Epinephrine infusion) if needed.
Mean Arterial Pressure	> 65 mmHg	Titrate vasopressors and IV fluids to achieve target.
Temperature (TTM)	32 – 36 °C for 24 hrs	For all comatose post-arrest patients. Prevent fever.
Blood Glucose	< 180 mg/dL	Avoid hypoglycemia. Monitor frequently.
12-Lead ECG	ASAP	Identify STEMI or other ischemic changes. Consider cath lab.

A.3 Defibrillation Safety Sequence — Verbal Script

Practice this exact verbal script until it is automatic. Every shock must be preceded by this sequence.

Step	Your Verbal Order	What Happens
1	"Charge the defibrillator to 200 joules."	Monitor operator charges the device. CPR continues.
2	"I'm going to check the rhythm. Stop compressions."	Compressions pause. Rhythm is analyzed (<10 seconds).
3	"VF confirmed. Everybody clear!"	Team Leader visually scans the patient — no one is touching.
4	"I am clear. You are clear. Everybody is clear — SHOCK!"	Shock is delivered.
5	"Resume CPR immediately!"	Compressions restart without delay. 2-minute cycle begins.

References & Citations

This workbook is an independent educational resource created for ACLS provider candidates. All clinical content is based on and cites the following official American Heart Association publications. This document is not an official AHA publication and should be used as a supplement to, not a replacement for, official AHA training materials and courses.

1. Based on 2025 AHA Guidelines for CPR and ECC
Resuscitation and Emergency Cardiovascular Care. Circulation.

2. American Heart Association. (2025). ACLS Provider Manual, 2025 Edition.

3. American Heart Association. (2025). ACLS Supplementary Material (1434_2025_ACLS_SpplmntryMtrl). Official supplementary content for the 2025 ACLS Provider Course.

4. American Heart Association. (2025). ACLS Airway Management Skills Testing Checklist. Official skills testing checklist for the 2025 ACLS Provider Course.

5. Based on 2025 AHA Guidelines for CPR and ECC
CPR and Emergency Cardiovascular Care.

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