

AHA Heartsaver AED 教育プログラム概要

出典：instructor's manual Heartsaver AED
American Heart Association 2000

I AHA Heartsaver AED Course (CPR を含んだコース)

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| 導入 | 30 min. |
| 成人の CPR と気道異物除去 | 1 hr. 15 min. |
| AED の使い方 | 30 min. |
| シナリオによる練習 | 35~45 min. |
| 実技試験と筆記試験 | 25~40 min. |
| 合計 | 3 hr. 30 min. ~ 4 hr |

II AHA の AED 教育プログラムの特徴

- CPR コース終了者を対象とする場合以外は CPR を含んでいる
- 成人教育理論に基づいている
- 少人数によるグループ教育
 - 一人のインストラクターで最大 6 人（推奨 4 人まで）程度
- 座学より実技を重視している
 - デモンストレーションを見てからすぐに実技を行う
 - シナリオに基づいた練習で経験を積む
- 実技試験と筆記試験を行う
- インストラクターは医療従事者に限らない

Instructor Requirements

Prerequisites

To become an instructor for the AHA Heartsaver AED Course, a candidate for instructor must meet these prerequisites:

- Be an active *CPR provider* (documentation of successful provider's course completion or renewal within previous 2 years by either the AHA or the American Red Cross)
- Be an active *CPR instructor* (documentation of successful CPR instructor's course completion or renewal within previous 2 years by either the AHA or the American Red Cross)
- Be an active *Heartsaver AED provider* (documentation of successful Heartsaver AED Course completion or renewal within previous 2 years)

Instructor

To become an instructor, the instructor candidate must

- Attend and successfully participate in the *AHA Heartsaver AED Instructor Orientation Course*
- Demonstrate during the *Instructor Orientation Course* the following:
 - All the skills needed to perform CPR and use an AED in 1-rescuer and 2-rescuer scenarios (see Final Evaluation Skills Sheet)
 - The ability to take a group of providers (or mock providers) through watch-then-practice video-based CPR and AED training
 - The ability to conduct the 8 core practice scenarios in the AED practical skills teaching station

It is also *recommended but not required* that the instructor candidate

- Participate successfully, under monitoring, as a candidate instructor in a Heartsaver AED provider's course
- Have field experience or hospital clinical experience using AEDs
- Have medical authorization to use an AED in clinical emergencies
- Have knowledge of, but not necessarily a course completion card in, ACLS and PALS (pediatric advanced life support)

Student-Instructor Ratios

The recommended student-to-instructor ratio is **4:1**. However, the specific ratio for some classes may vary at the discretion of the course director, based on individual circumstances and resources.

The student-instructor ratio should never exceed 6:1. Note that ratios higher than 4:1 will result in longer class time because each student will still need the same amount of practice time required for a class with a ratio of 4:1.

HEARTSAVER AED SAMPLE COURSE AGENDA

(Slightly modified agendas may be used at specific courses.)

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| INTRODUCTION (INSTRUCTOR LECTURE WITH SLIDES PLUS VIDEO) | 30 MINUTES |
| <ul style="list-style-type: none"> • Welcome and introduction 5 minutes • Overview video: <i>EZ AED</i> 10 minutes • Overview of the Chain of Survival and automated external defibrillation 15 minutes <ul style="list-style-type: none"> — Sudden cardiac death — Chain of Survival — Importance of early defibrillation — What is an AED? — How does an AED work? | |
| INSTRUCTION IN CPR AND RELIEF OF FBAO (VIDEOS PLUS INSTRUCTORS: "WATCH-THEN-PRACTICE") | 1 HOUR 15 MINUTES |
| <ul style="list-style-type: none"> • Watch-then-practice: mouth-to-mouth breathing 15 minutes • Watch-then-practice: mouth-to-mask breathing 15 minutes • Watch-then-practice: chest compressions 15 minutes • Watch-then-practice: CPR (mouth-to-mask plus chest compressions) 15 minutes • Watch-then-practice: relief of FBAO (clearing the obstructed airway in the conscious and unconscious victim) 15 minutes | |
| BREAK | 15 MINUTES |
| AED INSTRUCTION (INSTRUCTOR DEMONSTRATES — THEN PRACTICE) | 30 MINUTES |
| <ul style="list-style-type: none"> • Instructor demonstrates operation and maintenance of AED 15 minutes <ul style="list-style-type: none"> — Turning device on — Skin preparation — Location of pads — Pad placement — Analyze mode — Delivery of shock — No shock indicated • Instructor demonstrates one-rescuer AED scenario: 1 shock; pulse and breathing return • Participants practice Heartsaver AED algorithm (single-shock scenario) 15 minutes | |
| SCENARIO-BASED PRACTICE (INSTRUCTOR-LED HANDS-ON) | 35-45 MINUTES |
| <ul style="list-style-type: none"> • Practice and review: 8 critical scenarios (groups of 4; 8 rotations) 45 minutes | |
| PRACTICAL EVALUATION (INDIVIDUAL DEMONSTRATION OF PRACTICAL SKILLS; WRITTEN EXAMINATION) | 25-40 MINUTES |
| <ul style="list-style-type: none"> • Practical evaluation 20 minutes • Written evaluation 20 minutes | |
| TOTAL TIME: | 3½ TO 4 HOURS |

| LOCATION IN CURRICULUM | KNOWLEDGE OBJECTIVES | SKILLS OBJECTIVES |
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| <p>Course introduction</p> | <p>The <i>knowledge objectives</i> of this course are for the student to be able to</p> <ol style="list-style-type: none"> 1. Describe the 4 links in the Chain of Survival 2. Describe the critical importance of calling 911, getting the AED, starting CPR, and performing defibrillation 3. Recognize a heart attack, stroke, cardiac arrest, and FBAO | <p>The <i>skills objectives</i> of this course are</p> <ol style="list-style-type: none"> 1. Perform the steps of adult CPR 2. Provide rescue breathing using a pocket face mask 3. Relieve FBAO 4. Operate an AED safely and effectively <p>These objectives are achieved if the student can meet the performance criteria on the Performance Criteria score sheet (<i>instructor should hand out or display the Final Evaluation Skills Sheet</i>).</p> |
| <p>The video EZ AED</p> | <p>After watching the video the student will be able to</p> <ol style="list-style-type: none"> 1. Discuss the importance of CPR and AED operation 2. Describe settings in which the placement of AEDs may save lives 3. Explain the importance of calling 911 early | |
| <p>Slide-based lecture: overview of CPR, automated external defibrillation, and the Chain of Survival</p> | <p>At the end of the slide-based lecture the student will be able to</p> <ol style="list-style-type: none"> 1. List the links in the Chain of Survival 2. Explain the importance of reducing the time from collapse to the start of CPR and delivery of first shock 3. Describe the proper location of the AED electrode pads 4. Discuss the importance of clearing the victim before AED analysis or defibrillation 5. Describe possible special situations where corrective actions must be taken before defibrillation <p><i>(Slides and instructor notes are at the back of this book.)</i></p> | |

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|---|--|---|
| <p>The video <i>Heartsaver AED</i> (watch-then-practice): CPR</p> | <p>At the end of the CPR section of the <i>Heartsaver AED</i> watch-then-practice video, the student will be able to</p> <ul style="list-style-type: none"> • List the steps of checking for responsiveness, calling 911, performing CPR • Explain the importance of calling 911 early • List the signs of respiratory and cardiac arrest • Discuss the value of early CPR | <p>The instructor must ensure that at the end of each of the three watch-then-practice sections of the video the student is able to demonstrate the following:</p> <p>“Blow” (A — Airway; B — Breathing):</p> <ul style="list-style-type: none"> • Opens the airway using the head tilt–chin lift or jaw thrust maneuver • Checks for breathing (look, listen, and feel) • Opens case and assembles face mask or face shield • Properly places mask on manikin • Gives 2 slow breaths • Watches for chest rise • Allows for exhalation between breaths <p>“Pump” (C — Circulation: check carotid pulse; chest compressions):</p> <ul style="list-style-type: none"> • Locates correct position on neck for carotid pulse • Locates proper position for chest compressions on lower half of sternum, right between nipples • Begins chest compressions adequate to move sternum down approximately 1½ to 2 inches <p>One-rescuer CPR:</p> <ul style="list-style-type: none"> • Provides 15 chest compressions at rate of 80 to 100 per minute • Provides 2 breaths with a face mask or face shield, over 1½ to 2 seconds per breath, in ratio of 15:2 compressions to breaths • Performs 2 cycles of compressions and ventilations |
| <ul style="list-style-type: none"> • Video: Relief of FBAO: choking, conscious; choking, unconscious • Participant practice | <p>At the end of watching this section and practice, the student should be able to</p> <ol style="list-style-type: none"> 1. Recognize the universal choking distress signs 2. Respond by asking, “Are you choking?” 3. Give abdominal thrusts (chest thrusts for pregnant or obese victims) 4. Repeat abdominal thrusts until effective or victim becomes unconscious | <p>The student should demonstrate on a partner the following skills:</p> <ol style="list-style-type: none"> 1. Proper technique for giving abdominal thrusts to a conscious choking victim (chest thrusts for pregnant or obese victims) 2. Proper technique for repeating abdominal thrusts until effective or victim becomes unconscious |

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| <p>Instructor demonstrates major AED components</p> <p>(<i>Note:</i> Some details in demonstration will vary by AED brand. Focus on specific AEDs to be used by students.)</p> | <p>At the end of the demonstration the student should be able to identify the following AED features:</p> <ol style="list-style-type: none"> 1. AED in carrying case 2. Rack or mount for AED 3. Defibrillation adhesive electrode pads with 2 sets of spares 4. Cable connections with AED 5. ON button (if present) 6. ANALYZE button (ON button may serve this function) 7. SHOCK button 8. Screen messages | <p><i>At this point in the course, the student needs to have only an early understanding of practical skills. Hands-on practice will occur later in the course.</i></p> |
| <p>Instructor demonstrates</p> <ul style="list-style-type: none"> • AED maintenance • Troubleshooting an AED • Use of an AED with CPR • Use of an AED in special situations | <p>The student should be able to describe the following aspects of AED maintenance and troubleshooting:</p> <p>AED maintenance</p> <ol style="list-style-type: none"> 1. Inspection and maintenance schedule 2. Pad expiration date 3. Battery monitoring and replacement 4. Medical direction event documentation 5. Unit self-test <p>Troubleshooting</p> <ol style="list-style-type: none"> 1. Error messages 2. Weak battery message 3. Poor electrode contact 4. Hairy or sweaty skin 5. Medication patches or paste 6. Water around victim 7. Metal surfaces 8. Implanted cardioverter-defibrillator 9. Children less than 8 years old | <p>At the end of the instructor's demonstration the student should have an early understanding of these steps:</p> <p>AED operation</p> <ol style="list-style-type: none"> 1. Check for responsiveness; A-B-C. 2. Heartsaver AED rescuer operates the AED and assumes control of the scene. 3. Heartsaver AED rescuer performs ABCs and starts CPR if AED not yet on the scene. 4. Other rescuer calls 911 and gets the AED. 5. Heartsaver AED rescuer performs defibrillation in less than 90 seconds of AED touching the floor next to the victim. |

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| <p>Instructor demonstrates AED and pad placement</p> | <p>The student should be able to describe device and pad placement:</p> <p>AED placement</p> <ol style="list-style-type: none"> 1. Place the AED close to the victim's left ear. 2. Perform defibrillation from the left side of the victim. 3. Ensure easy access to AED controls and easy placement of defibrillator pads. This position may not be possible in all clinical situations. | <p>The student should have an early understanding of these steps:</p> <p>Power on and pad placement</p> <ol style="list-style-type: none"> 1. POWER ON the AED. 2. Open pads; attach to AED cables (if necessary; varies by device). 3. Peel backing from pads and place pads on victim's chest wall as pictured on each of the AED electrodes (sternum and apex). Some old models lack figures for placement. If that is the case, place pads as follows: <ul style="list-style-type: none"> • Sternum — right border of the sternum, above the right nipple and just below the right clavicle • Apex pad — to the outside of the left nipple, with the top margin of the pad several inches below the left armpit 4. As electrode pads are about to be placed: stop chest compressions. <p>Key point: attach pads as quickly as possible with minimal interruption of CPR.</p> 5. Recognize and respond to "check electrode" signal from improper application of pads. |
| <p>Instructor demonstrates rhythm analysis and "clearing"</p> | <p>The student should be able to describe rhythm analysis and rationale for "clearing" before analysis:</p> <p>Rhythm analysis and "clearing"</p> <ol style="list-style-type: none"> 1. Rhythm analysis and shock delivery will vary by AED brand. Clear before ANALYZE. 2. Press ANALYZE (or ON) button. 3. State loudly, "I'm clear. You're clear. Everyone is clear!" 4. Visually check to ensure that no one is touching the victim during analysis (analysis takes 10 to 20 seconds, depending on AED brand) and shock. | <p>During later practice sessions the student should be able to demonstrate</p> <ul style="list-style-type: none"> • Opening adhesive pad packaging • Correcting problems that may occur with pad placement or attachment • Attaching AED pads to cables, cables to AED, pads to chest • Responding to tones, voice-synthesized messages, or light indicators |

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| <p>Instructor demonstrates “<i>shock indicated</i>” and pressing SHOCK button</p> | <p>The student should be able to describe response to “<i>shock indicated</i>” message: “Shock indicated” — press the SHOCK button:</p> <ol style="list-style-type: none"> 1. If AED detects VF, it presents a message — eg, “<i>shock advised,</i>” “<i>shock now,</i>” or “<i>shock indicated</i>” — to the operator. 2. AED advises consecutive shocks if rhythm is persistent VF. | <p>During later practice sessions the student should be able to</p> <ul style="list-style-type: none"> • Attach the AED and deliver shocks in less than 90 seconds of AED arriving at the victim’s side. • The student’s time-to-shock interval will be checked during the 8 practice scenarios and final course evaluation. |
| <p>Instructor demonstrates repeat rhythm assessment and shock delivery</p> | <p>The student should be able to describe responding to AED messages after the first shock: Repeat rhythm assessment and shock delivery</p> <ol style="list-style-type: none"> 1. Follow AED voice prompts for repeat analysis and shocks and rhythm assessment periods. 2. Continue to give shocks in sets of 3 shocks then 1 minute of CPR until “no shock indicated” message is heard. 3. Continue analysis, defibrillation, and CPR until arrival of EMS. | <p>During later practice scenarios the student should be able to</p> <ul style="list-style-type: none"> • Follow AED voice prompts. • Continue to give shocks as indicated. • Continue to perform CPR as indicated both with and without second rescuer to do CPR. |
| <p>Video: Heartsaver AED (watch-then-practice)</p> | <p>After watching the section of the <i>Heartsaver AED</i> video on use of the AED, the student will be able to</p> <ol style="list-style-type: none"> 1. Discuss sequencing of call to 911, starting CPR, and using an AED. 2. Describe actions to take in the following situation: <ul style="list-style-type: none"> • No breathing, no pulse, and AED advises “<i>shock</i>” | <p>At the end of each watch-then-practice section, the student is able to demonstrate the skill he or she just watched. Sequence will cover the following:</p> <p>The 4 steps of CPR:</p> <ol style="list-style-type: none"> 1. Unresponsive–911–AED 2. Airway 3. Breathing 4. Circulation <p>The 4 steps of AED use:</p> <ol style="list-style-type: none"> 1. POWER ON the AED first! 2. ATTACH AED 3. ANALYZE rhythm 4. SHOCK |