

# INTERNATIONAL LIFE SAVING FEDERATION

## World Water Safety

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## AED CERTIFICATE

### AUTOMATED EXTERNAL DEFIBRILLATOR (AED) CERTIFICATE

#### OVERVIEW

Survival of cardiac arrest depends on a series of critical interventions. The term chain of survival has been used to describe this sequence. This chain has four interdependent links: early access, early basic cardiopulmonary resuscitation (CPR), early defibrillation, and early advanced cardiac life support. While all links are important, in cardiac arrest due to heart disease, early defibrillation is the most critical link in the chain of survival.

Most victims who can be saved from cardiac arrest are in ventricular fibrillation (VF). Conversion of ventricular fibrillation to a normal heart rhythm requires defibrillation be administered within a few minutes of a cardiac arrest. The probability of successful defibrillation diminishes rapidly over time.

There has been interest in the possibility of lifesavers and lifeguards receiving training in the use of Automated External Defibrillators (AEDs) to improve response times in cases of sudden cardiac arrest.

The speed of rescue and early initiation of the chain of survival will improve victim outcomes. In cases of land based cardiac arrest, and those drowning cases with rapid rescue and early effective resuscitation, VF may be present and defibrillation may be helpful.

#### MINIMUM RECOMMENDED COMPETENCIES

An person holding an AED Certificate is a person able to master Automatic External Defibrillation techniques and equipment.

The following are the minimum competencies recommended by the International Life Saving Federation for a AED Certificate. ILS recognises that many of its Member Organisations have standards, which exceed these minimums, based on the circumstances presented in their own countries. ILS encourages the highest possible standards in lifesaving, and merely provides the following as recommended minimum competencies

1. All candidates shall receive training in Basic Life Support (basic airway management, expired air ventilation, and chest compression).
2. Candidates shall have their training recorded and verified by the Instructor.
3. Candidates must hold any necessary Licence(s) or other requirements/ordinances as applied by local/county/state/province or National authority(s).

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## LEARNING OUTCOME 1: Establish the need for and carry out Cardiopulmonary Resuscitation (CPR) on an adult

### Assessment Criteria:

#### 1.1 Knowledge evidence

- Potential sources of danger
- Causes of unconsciousness
- Common causes of cardiopulmonary arrest
- When to call for help
- Signs of a circulation
- Importance of correct hand position on sternum for chest compression
- Ratio of chest compression to rescue breaths

#### 1.2 Performance evidence

The candidate shall perform CPR, as a lone rescuer, in a simulated incident on an appropriate resuscitation manikin. The manikin shall be assumed to be an unconscious adult who is not breathing and has no signs of a circulation. The performance of CPR must last for at least three minutes.

#### 1.3 Performance criteria

- Candidate looks for risks to him/herself, the victim and any bystanders
- Victim is assessed to be unresponsive
- Victim's head is positioned to ensure a clear airway
- Visible obstructions in the airway are sought and removed
- Absence of normal breathing is established
- Additional help is summoned
- Two rescue breaths are given
- Absence of a circulation is established
- Chest compressions are commenced with hands in the correct position on the sternum
- CPR is continued with the correct ratio of compressions to rescue breaths

## LEARNING OUTCOME 2. Demonstrate safe and appropriate practice when using an AED on an adult in line with current protocols

### Assessment Criteria:

#### 2.1 Knowledge evidence

- Basic understanding of ventricular fibrillation
- Principle of defibrillation
- What makes a victim suitable/unsuitable for defibrillation
- Maintenance requirements of AEDs
- Appropriate record keeping relating to the use of AEDs

#### 2.2 Performance evidence

The candidate is required to demonstrate, as a lone rescuer, the assessment of an unconscious, non-breathing victim who has no signs of a circulation. This is to be followed by a demonstration of how to use an AED and perform CPR. An appropriate resuscitation manikin and training AED should be used. The following situations should be simulated:

- Victim in ventricular fibrillation – "Shock advised"
- "No shock advised"

Each simulation should last about ten minutes

### 2.3 Performance criteria

- Candidate looks for risks to him/herself, the victim and any bystanders
- Victim is assessed to be unresponsive
- Victim's head is positioned to ensure a clear airway
- Visible obstructions in the airway are sought and removed
- Absence of normal breathing is established
- Additional help is summoned and the AED brought to the scene
- Two rescue breaths are given
- Absence of a circulation is established
- The AED is prepared and the defibrillation pads are applied
- Prompts given by the AED are followed
- CPR is performed correctly when prompted by the AED

### ASSESSMENT STRATEGY

These learning outcomes may be assessed using continual assessment during the course (best for lay persons) or by a formal assessment at the end.

### SKILL RETENTION

It is recognised that the skills and knowledge needed to perform safe and effective CPR and to use an AED deteriorate rapidly. There is little scientific medical or educational data on which to base a decision as to minimum retraining and reassessment intervals. Informed opinion recommends at least some familiarisation, with feedback, at regular intervals. The intervals recommended have varied from 3 to 12 months.

### RANGE OF VARIABLES

<b>Variable</b>	<b>Scope</b>
<b>Location</b>	Training should be conducted on a dry surface
<b>Resources</b>	ILS Member Federations will utilise their own materials or those available from other Member Federations or reference materials approved by the ILS Rescue and Education Commission.
<b>Equipment</b>	AED equipment is available from a range of manufacturers and suppliers.

Regulation approved by the ILS Board of Directors in 2004 and ratified by the 2004 ILS General Assembly.