

# Lifesaving CPR-HCP

## Long Term Lesson Plan

Item	Course Item	Duration
	Welcome and Introductions .....	30 minutes
1	One Rescuer CPR: Adult, Child & Infant .....	90 minutes
2	Two Rescuer CPR: Adult, Child & Infant .....	20 minutes
3	Obstructed Airway: Conscious Adult & Child .....	20 minutes
4	Obstructed Airway: Conscious Infant .....	20 minutes
5	Obstructed Airway: Unconscious: Adult, Child & Infant .....	30 minutes
6/7	Circulatory Emergencies .....	20 minutes
8	AED Knowledge .....	30 minutes
8	One & Two Rescuer AED .....	60 minutes
9	Bag-Valve-Mask .....	30 minutes
	What Now? .....	15 minutes
	Final Course Evaluations .....	As needed
	Appendix A: AED Generic Sequence .....	
	Appendix B: AED Frequently Asked Questions .....	

# Welcome and Introductions

- Time** 30 minutes
- Outcome** Understand and accept the evaluation criteria and course schedule for the award  
Understand the materials required for the course  
Know how to contact the Lifesaving Society and a little of its background
- Demonstrate** Icebreaker: Have all the candidates briefly introduce themselves including their name and the type of medical environment where they work or go to school . As part of the introduction ask them to tell the group about previous CPR or First Aid training and experience. Use this information to present the information from the note below about the content and level of skill training included in this CPR-HCP course.
- Discuss** Orientation to schedule - review course schedule and introduce course materials.
- Do** Self orientation to building – in a group, have candidates find the location of washrooms, eating area, smoking, telephone, cell phones to be turned off or on vibrate (just because it rings, you do not have to answer it) etc. Instructor to accompany and assist as necessary.
- Pass out roster for candidates to fill in.
- Using their Canadian CPR-HCP Manual ask candidates to locate the answers to the following questions. You can break the group into two teams and offer a reward for the team with the most correct answers.
- When did the Lifesaving Society first start teaching lifesaving skills?
  - When did Lifesaving Society start teaching CPR?
  - What product did the Lifesaving Society design for training people in CPR?
  - What is the chain of survival?
  - Which step in the chain is the most important after recognition? (Early defibrillation - survival with CPR alone is only 3-5%; with defibrillation - as high as 80%)
  - How can someone get a hold of the Lifesaving Society?
  - How many people does the Society train each year?
- References** Policy and Procedures  
Canadian CPR-HCP Manual
- Notes** **Previous training of candidates:** The lesson plans for the CPR-HCP course assumes that this is the candidate's first CPR course. It does not assume that they have previous CPR training such as CPR-C. For example, the candidate may be a nursing student who is taking the course as a prerequisite or within the scope of the nursing curriculum.

# One Rescuer CPR

## Adult, Child, Infant

**Time** 90 minutes

**Outcome** Demonstrate an understanding of the safety of both rescuer and victim including use of barrier devices.  
 Demonstrate an understanding of how to identify and deal with life-threatening priorities.  
 Demonstrate primary assessment of Airway, Breathing and Circulation.  
 Demonstrate CPR on Adult, Child and/or Infant.

**Demonstrate** Have all candidates open their Canadian CPR- HCP Manual and lay it out in front of them as they do this. Demonstrate an adult CPR sequence.

Using the sequential method of teaching, and barrier devices, demonstrate the first step in a rescue: assessing hazards. Have the candidates mimic you. Repeating the first step, add on the second and again have the candidates mimic you starting from the beginning. Work this way through to the end of the rescue.

**Discuss** As you demo, write on the board or flipchart the following steps and discuss:  
 Check for hazards (potential hazards - include body fluids)  
 Assess responsiveness  
 Help – activating EMS, pushing code button etc. (with and without bystanders)  
 Send/Get AED  
 Airway (head tilt/chin lift)  
 Breathing (look, listen, feel up to 10 sec.)  
 Circulation (Pulse check 5 to 10 seconds)  
 Discuss that CPR is only effective if performed on a hard surface so the patient must have a board placed under them or move them the floor. How would they manage moving a patient to the floor?

**Discuss** Discuss how to do a Circulation check for Adult and Child using the carotid artery. Located by placing 2-3 fingers on the victims' larynx and sliding them into the groove between the larynx and the neck muscle on the side closest to you. Make sure that they probe gently looking for an *obvious and recognizable pulse*. Reinforce that if they do not find an obvious pulse to immediately begin chest compressions.

**Do** Have the candidates attempt to find pulses on themselves first, then partner up and have them find the pulse on their partner. Ask if they had difficulty finding an obvious pulse? How much more difficult might it be with an unresponsive, nonbreathing patient?

**Do Adult CPR**

Have the candidates perform the steps for CPR on a manikin for Adult victim while referring to their manuals including the assessment steps leading up to CPR.

**Discuss Rescue Breathing**

Discuss how to perform Rescue Breathing if there is a pulse found. Refer them to their manual for the steps. Key discussion points should include:

- the rate for each victim type- approximately once every 5 seconds for Adults and once every 3 seconds for Child and Infant victims
- reassessing circulation every 2 minutes. If there is a pulse, resume ventilations; if there is no pulse start chest compressions.

**Do** Have the candidates perform the steps for rescue breathing on a manikin.

**Discuss Child CPR**

Discuss how to determine if a victim is classified as a child. What clues can they use to determine the onset of puberty as part of the selection criteria?

Discuss how activating EMS and getting the AED changes if the victim is a child or infant.

Discuss Bradycardia for Child and Infant victims. Bradycardia is where there is a slow heart rate- less than 60 BPM. If a child or infant is experiencing bradycardia with poor perfusion (very pale or grey/blue skin colour), start CPR with chest compressions. Determine if a victim has bradycardia by getting data from a pulse oximeter (a device placed on the finger or earlobe which measures oxygen levels in the blood) or other device e.g. ECG. If this equipment is not available do a pulse check for 10 seconds counting each pulse (less than 6 beats = bradycardia). Have them try counting and calculating pulse rates using a 10 second check. How difficult is it to get a reliable estimate?

**Do Child CPR**

Have the candidates perform the steps for CPR on a manikin for child victim while referring to their manuals.

**Discuss Infant CPR**

Discuss the cautions for opening the airway of an infant using the head-tilt/chin-lift method - over extend the head-tilt can obstruct the airway. The head should be tilted to the neutral or sniffing position – check that the head has not been extended too far by determining if the infant's ear canal is level with the top of the infant's shoulder.

Discuss how to do a Circulation check for an infant using the brachial artery. Use 2 fingers to find it on the inside of the upper arm between bicep and triceps muscles. Make sure that they probe gently looking for an *obvious and recognizable pulse*. Reinforce that if they do not find an obvious pulse to immediately begin chest compressions.

Have the candidates attempt to find brachial pulses on themselves first, then partner up and have them find the pulse on their partner. Ask if they had difficulty finding an obvious pulse? How much more difficult might it be with an unresponsive, nonbreathing infant patient?

**Do Infant CPR**

Have the candidates perform the steps for CPR on a manikin for infant victim while referring to their manuals including the assessment steps leading up to CPR.

**Discuss Jaw Thrust**

Discuss opening the airway on a suspected spinal injury victim using a jaw thrust for the first attempt. If there isn't adequate ventilation, switch to the head-tilt/chin-lift method. Both methods can cause neck movement.

**Do** Have the candidates landmark for a jaw thrust on partners to understand how to place the fingers. Have candidates attempt a jaw thrust on themselves to understand how the jaw moves to open the airway. Using a manikin, explore options for sealing the nose while performing the jaw thrust.

**References** Canadian CR-HCP Manual  
Lifesaving First Aid Award Guide

**Notes** Once the candidates are comfortable with the rescue, go over special situations such as vomit, rescue breathing mouth to nose and mouth to stoma.

# Two Rescuer CPR

**Time** 20 minutes

**Outcome** Demonstrate two rescuer adult, child and infant cardiopulmonary resuscitation (CPR) on a manikin.

**Demonstrate** Demonstrate two rescuer CPR with the assistance of a candidate.

**Discuss** Discuss the advantages of two rescuer CPR. Discuss the two rescuer options found in their Canadian CPR-HCP Manual.

**Do** In groups of two, have candidates practice two rescuer adult CPR, using manikins.

**Discuss** What changes are required when performing two rescuer CPR on children and infants?

- 15:2 compression:ventilations
- two thumbs technique for infant chest compressions.

Use two thumb compression method with the hands encircling the chest. Make sure that both thumbs are side by side on the infant's sternum (breastbone) approximately 1 finger width below the nipple line – see 2 finger landmarking technique for single rescuer CPR Wrap both hands around the infant's chest to support the back and compress  $\frac{1}{3}$  to  $\frac{1}{2}$  the chest depth by pressing with thumbs and squeezing the back with the fingers. Ensure full chest recoil between compressions.

**Do** In groups of two, have candidates practice two rescuer child and infant CPR, using manikins.

**References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide

**Notes**

# Obstructed Airway

## Conscious Adult or Child

- Time** 20 minutes
- Outcome** Demonstrate the treatment of a conscious adult or child with an obstructed airway  
Demonstrate an understanding of the legal implications of providing first aid treatment.
- Demonstrate** Demonstrate mild and severe Obstructed Airway procedures on a conscious victim. Make sure to gain consent.
- Discuss** Write on the board or flipchart, three important items for a rescuer to remember when it comes to legal considerations.
1. Get consent;
  2. Exercise reasonable care; and
  3. Do not exceed the level of your training.
- Discuss the above three points with the class. Discuss causes of Airway obstructions. Discuss modifications for variations in victim height, girth and pregnancy. Discuss procedures for mild and severe airway obstructions.
- Do** Have the class practice obstructed airway procedures in groups of three - rescuer, victim and guide. The guide uses the manual to provide cues as needed to the rescuer. Have the candidates rotate through each role.
- References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide
- Notes** Ensure abdominal thrusts are "simulated".

# Obstructed Airway

## Conscious Infant

**Time** 20 minutes

**Outcome** Demonstrate the treatment of a conscious infant with an obstructed airway

**Demonstrate** Demonstrate how to relieve an obstructed airway on a conscious infant.

**Discuss** Repeat the demonstration explaining each step. Have candidates follow along in their manual. Discuss the differences for infant procedures versus adult/child procedures. Discuss the difference between mild and severe obstructions, and their treatments.

**Do** Have candidates practice the obstructed airway procedure for an infant, utilizing their manual as a reference.

**References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide

**Notes**

# Obstructed Airway

## Unconscious Adult / Child / Infant

- Time** 30 minutes
- Outcome** Demonstrate the treatment of an unconscious adult, child or infant with an obstructed airway
- Demonstrate** Demonstrate the procedure for an unconscious adult victim with an obstructed airway.
- Discuss** Discuss the steps performed in the demonstration. Discuss modifications for Child and/or Infant obstructed airway procedures.
- Do** Have the class perform an Obstructed Airway rescue on a manikin with their manuals in front of them for reference. If manikins are not available, have the candidates partner up. Have candidates practice Child and Infant procedures.
- References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide
- Notes**

# Circulatory Emergencies

## Heart Attack, Angina, Stroke, TIA

- Time** 20 minutes
- Outcome** Demonstrate the recognition and care of a victim suffering from: Heart attack, Angina, TIA, or Stroke
- Demonstrate** Demonstrate the appropriate care for the circulatory emergencies above.
- Discuss** Discuss the signs and symptoms of the four circulatory emergencies. Discuss the similarities in the care of heart attack, angina, stroke, and TIA.
- Do** Partner up the candidates, send one group out of the room, assign a circulatory emergency to the ones in the room and have the first group rescue the second. Switch the groups around and do it again.
- References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide
- Notes**

# AED Knowledge

**Time** 30 minutes

**Outcome** Gain a basic understanding of an AED unit and its operation.  
Understand when to use an AED.  
Understand complications and how to deal with them.

**Demonstrate** Instructor goes through the process of preparing an AED for use while describing the AED components and associated equipment.

**Discuss** Verbalize during demonstration. At the end of demo, point to components and have class name the item and describe its purpose:

- AED unit
- AED "on" button/action
- AED "shock" button
- Pads

**Do** Give each candidate a step from the set of AED steps (Appendix B: AED Generic Sequence). Have the candidates use their AED manuals to help them organize the cards according to what they think the right sequence would be. Discuss their outcome. Instructor must ensure that the candidates do get the order correct.

**Discuss** Ask candidates to explain the role of the following equipment and special considerations:

- Towel (discuss poor pad adhesion to wet/sweaty skin)
- Razor (discuss poor pad adhesion to hair and shaving immediately versus waiting for the AED to indicate "poor pad contact")
- Scissors (discuss clothing, bras, and jewelry)
- Gloves
- Pocket mask
- AED equipment and use for children ages 1-8 years
- Medication patches
- Implanted devices

With feedback from the candidates, add in two steps called Maintenance and Staff Training to the sequence. Ensure candidates know that there are many brands of AED available, each with slightly different operation, maintenance and training requirements. Specific, planned, and scheduled ongoing training and maintenance is the responsibility of the facility and staff.

**References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide

**Notes**

# One and Two Rescuer AED

**Time** 60 - 90 minutes

**Outcome** Demonstrate one and two rescuer adult AED (CPR) on a manikin, in a variety of scenarios.

**Demonstrate** Demonstrate the steps for adult CPR with an AED available in a "Shock Advised – 1 Rescuer scenario. Have candidates follow in their manuals.

**Discuss** Discuss the steps for effective AED administration, after performing the demonstration.

**Do** Have candidates perform the steps for adult AED, while referencing their manuals, using the following list of scenarios. These scenarios are based on those included on CD with the Actar AED Trainers. Instructor ensures correct technique and facilitates learning while the AED Trainer prompts candidates.

## 1- and 2- Rescuer AED

If using the Actar AED Trainers, candidates should practice AED scenarios using the HCP scenarios on Disc 2 of the trainers CDs. Using this system, most candidates can easily complete all of the scenarios within the allocated time.

**Note:** If using another AED trainer system, review the trainer instructions for information about the AED scenarios it can present. Also consider that the number of available trainers may limit the number of scenarios the candidates can complete or increase the required skill practice time. Candidates should have an opportunity to practice witnessed and unwitnessed arrest scenarios with adult and child victims.

**References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide

**Notes** *Beginning in 2006, a new 1 shock protocol was introduced for AEDs. It is estimated that it may require up to 2 years for AEDs and AED Trainers to be reprogrammed with the new protocol. The Lifesaving AED manual includes a supplement providing candidates with the new protocol (1 shock followed by 2 minutes of CPR) as well as the older protocol (series of up to 3 shocks followed by CPR). Candidates should follow the prompts provided by the AED they are using. Both protocols are effective.*

The ACTAR AED Training system is designed to maximize the amount of practice that AED students can receive during the Lifesaving AED course. With a manikin and trainer for each student, they can easily accomplish all of the sample scenarios and become proficient.

If you have a different AED Trainer such as the Lifepak 500 it can be used with the ACTAR AED Trainers. Have the group practice listening to the AED prompts on your trainer (eg. Lifepak 500). Ensure that all candidates are positioned so that they can hear the AED prompts.

If you have only 1 AED Trainer, every candidate should do at least 1 scenario with the AED Trainer. Use your creativity to make additional AED simulators (eg. using paper, string and tape) that the other candidates can use to follow the prompts and practice the steps. Make sure you familiarize yourself with AED scenarios for your AED Trainer.

Promote use of personal protective equipment including pocket mask and gloves.

Instructors must make a “safe training razor” from an inexpensive disposable razor by either removing the blades, or permanently covering the blades for the class. One option: most disposable razors come with a blade cover and this cover can be taped on with packing tape.

# Bag-Valve-Mask (BVM)

**Time** 30 minutes

**Outcome** Demonstrate use of a Bag-Valve-Mask (BVM) on Adult, Child and Infant victims using both one and two rescuer techniques.

**Demonstrate** Demonstrate one rescuer BVM on a manikin.

**Discuss** iMake sure that candidates understand that BVM skills need to be practiced on a regular basis and immediately after training for effective skill maintenance. In a one rescuer situation the rescuer is positioned at the top of the victim's head so that they are facing towards the chest and feet of the victim. Do a head-tilt/chin-lift and seal the mask over the victims' mouth and nose keeping the airway open and the mask sealed to the face with the C-E clamp method. Circle the thumb and forefinger to form a "C" around the top of the mask. Use the other 3 fingers to lift the jaw by holding along the side of the jaw (looks like an "E") Squeeze the bag with the other hand and deliver enough air to make the chest rise.

Be careful to deliver just enough air into the victim to cause the chest to rise. Excessive force and air volume can cause gastric distention (air going into the stomach).

**Do** Have candidates practice one rescuer BVM skills using BVMs on a manikin. As they practice the skill, draw their attention to how difficult it is to maintain an open airway, effective seal and adequate ventilation as a single rescuer. **Note:** some manikins are easy to ventilate with a BVM and may not reflect the difficulty of effectively ventilating a patient with a BVM.

**Discuss** Discuss the modifications of BVM skills with 2 rescuers – this is the preferred method of using a BVM as it is usually the most effective. Rescuer one seals the mask using the C-E clamp method on both sides of the head while rescuer 2 supports the bag and slowly squeezes to deliver just enough air to make the chest rise.

**Do** Have candidates practice 2 rescuer skills using BVMs on a manikin.

**Discuss** When advanced airways are being used with a BVM, ventilate with 8-10 breaths per minute (6-8 seconds between breaths), and do not stop compressions to administer breaths. Be careful to avoid hyperventilation which can interfere with chest compressions.

Advanced airways include: laryngeal mask airway (a tube with an inflatable cuff that is inserted into the pharynx), combitube (a device used in blind intubation which closes off the esophagus when the cuff is inflated) or endotracheal tubes (where a tube is inserted into the mouth or nose and down into the trachea)

## Cricoid Pressure

- Demonstrate** Using yourself as the model, demonstrate how to landmark using the thyroid cartilage (Adam's Apple) to locate the cricoid cartilage just below it. Gently simulate applying pressure using 2 fingers against the cricoid cartilage.
- Discuss** Explain the use of cricoid pressure with a BVM as a method of preventing gastric distention. Ensure that candidates understand that the purpose of including cricoid pressure in this lesson is not to master the skill, but become aware of circumstances where it may be appropriate if they are well trained in its use. That training to master the use of cricoid pressure is beyond the scope of the CPR-HCP course.
- Discuss the safety notes included in the Canadian CPR-HCP Manual.
- Safety Notes: Do not use cricoid pressure if:**
- the patient is responsive (conscious)
  - if you have not received additional training and practice with cricoid pressure in a medical setting
  - if you have any difficulty finding the cricoid cartilage - pressure on other parts of the trachea can collapse and damage the airway
  - if the patient is vomiting, has damage to the front of the neck, or has an unstable cervical spine injury.
- Do** Have each candidate landmark and simulate applying cricoid pressure on themselves. ***For candidate safety, they must not do it on another candidate.*** They should follow the steps for performing cricoid pressure included in their manual.
- References** Canadian CPR-HCP Manual  
Lifesaving First Aid Award Guide
- Notes** The purpose of the BVM item is as a skill introduction to the use of a BVM to ventilate nonbreathing or pulseless patients. If they need this skill as part of employment requirements, it is expected that they will receive additional training and practice to master BVM use.

# What Now?

**Time** 15 minutes

**Outcome** Understand recertification process.  
Understand possible opportunities for further training or education.

**Demonstrate** Demonstrate the levels of further training available.

**Discuss** Discuss how and when to recertify. Outline the recertification process.  
Discuss opportunities for further training or education.

**Do** Have them find a way to reach the Lifesaving Society to inquire where they recertify their award.

**References** Policy and Procedures

**Notes**

# Final Course Evaluations

**Time** As needed

**Outcome** Understand whether they have successfully completed the course.

**Demonstrate** Have evaluations prepared for the candidates.

**Discuss** Discuss the outcomes of the course, and the reasons behind them one on one.

**Do** Issue temporary award cards.

**References**

**Notes**

# Appendix A: AED Generic Sequence

Scene Assessment	Assessment of environment for hazards Establish unresponsiveness
Activate EMS	Activate EMS Bring AED equipment to victim: fetch fast
Primary Assessment	Open airway Check for breathing (Look, Listen, and Feel - up to 10 seconds) Use barrier devices - gloves and pocket mask 2 rescue breaths Check Pulse No pulse - begin CPR starting with chest compressions
Prepare Victim	Ensure victim's location is safe for AED administration Expose victim chest Dry chest with towel Dry shave chest
Administer AED	Attach electrodes and connect to AED Respond to voice prompts: "Analyzing heart rhythm – Do not move victim" Respond to voice prompts: "SHOCK advised, charging" Respond to voice prompts: "Clear victim and press SHOCK button when ready" Resume 2 minutes of CPR (5 cycles of 30:2) Respond to voice prompts: "Analyzing heart rhythm – Do not move victim"
EMS arrives	Continue until EMS arrives

# Appendix B: AED Frequently Asked Questions

## Check the Manual First

Many of the questions asked by students are answered in the Canadian CPR-HCP Manual. Common questions are specifically addressed in the “Special Considerations” and “More About AEDs” sections of the Manual. The answers to other questions may be found in other sections of the Manual. The answers to additional questions are included in this AED FAQ.

## When to retrieve AED & who gets it?

The AED should be retrieved when the EMS call is made.

## The AED protocol says to perform CPR until the AED arrives. Should I finish the cycle of CPR first before attaching the AED?

Try to attach the AED pads and get the AED ready while the other rescuer continues CPR. If that is not possible, stop CPR and connect the AED. The effectiveness of the AED is directly related to how soon it can be used. The sooner the AED is attached, the greater the probability that it will help the victim.

## Victims on TV always exhibit a violent jolt when shocked. Is this muscle contraction (jolting of the body) harmful to someone with a spinal injury?

Don't believe everything you see on TV. While the AED may cause some movement, this is an ABC emergency and is a higher priority than the spinal injury.

## In the event that someone vomits at the same time the AED prompts to deliver a shock, the manual says to shock first and then deal with the vomit afterwards. Won't the victim drown on their own vomit? How does rolling the victim to the side while draining the vomit affect the analyzing part of AED operation?

The victim should not be touched until after the shock is delivered. This reduces the shock risk to the rescuer. After the shock the airway can be cleared of vomit and the victim assessed. When rolling the victim to drain vomit, the AED will sense the movement and will not be able to analyze. After clearing the airway, return to the normal AED procedure.

## Can I perform CPR with the AED pads attached?

Yes. The pad placement will not interfere with CPR. The pads must remain in place to allow the AED to periodically analyze and determine if a shock is advised. In some situations, CPR can allow the heart's energy supplies to recover sufficiently to establish a shockable rhythm and allow the AED to work.

## What should I do if the victim is on ice (eg. an arena ice surface) or a metal surface (eg. metal stairs)?

Just follow the normal AED procedure. These surfaces will not affect the operation of the AED or pose a shock hazard to either the victim or rescuer.