With the 2010 CPR Guidelines

Push hard push fast

30:2

Summary of CPR steps for adults, children and infants

Push hard, push fast

In October 2010 the International Liaison Committee on Resuscitation (ILCOR) and the American Heart Association (AHA) released changes to the Guidelines for CPR & Emergency Cardiovascular Care (ECC). The objective of the changes is to make it easier for rescuers and health care providers alike to learn, remember and perform better CPR.

We have learned that a continued emphasis on good and effective CPR results in better outcomes and survival rates. Good, effective CPR means:

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- ***Push hard, push fast:*** forceful, fast compressions provide better circulation of blood and oxygen. Fast means at least 100 compressions/minute to a depth of 5 cm/2 in.
- ***Allow for full chest recoil after each compression:*** relaxing the pressure on the chest between compressions allows the heart to refill and pump more blood.
- ***Minimize interruption in chest compressions:*** blood flow stops if compressions stop.
- ***Early defibrillation:*** victims have a better chance of surviving when CPR is performed in combination with early defibrillation.

Essentials you need to know

New CPR sequence for cardiac arrest victims: rescuers start with chest compressions after checking responsiveness, opening the airway and assessing for normal breathing using visual cues such as chest rise.

Why? Cardiac arrest victims need immediate chest compressions. "Look, Listen, Feel for 10 seconds" has been removed from the CPR sequence so chest compressions can begin as soon as possible.

No change in CPR sequence for drowning: after assessing for breathing, rescuers deliver two initial rescue breaths followed by 30 chest compressions.

Why? Drowning victims need urgent replenishment of oxygen starting with rescue breaths as a result of severe asphyxia. Drowning victims may respond after a few initial rescue breaths.

Compression-only CPR: all trained rescuers should perform CPR with chest compressions and rescue breaths using a mask and gloves. If an untrained rescuer is unwilling or unable, compression-only CPR may be performed.

Why? Studies have shown a combination of chest compressions and breaths is most effective especially for children and infants who experience cardiac arrest as a result of hypoxia, or severe lack of oxygen. In addition, other underlying causes of cardiac arrest such as a drowning, trauma, drug overdose and other non-cardiac causes will benefit from breaths and compressions.

Minimum depth of chest compression: compression depth for adults is a minimum of 5 cm/2 in. Compression depth for a child is at least ⅓ the depth of the chest size, or 5 cm for a child and 4 cm for an infant.

Why? There is a wide range of victim sizes for infants and children. Depths measured in centimetres/inches may not reflect the actual victim size for proper depth of compressions. The descriptive term "5 cm/2 in. or ⅓ the depth of the chest" is more appropriate.

Choking procedures: conscious adults and children with a severe obstruction receive alternating (5) back blows followed by (5) abdominal thrusts until the obstruction is dislodged or the victim becomes unconscious. To apply back blows, bend the victim over near-parallel to the ground and support with one arm across chest diagonally. Use your other hand to apply back blows aiming between the shoulder blades. For pregnant, obese and infant victims use a combination of back blows and chest thrusts.

Why? Evidence supports the use of chest thrusts, abdominal thrusts and back blows as effective and feasible means of relieving an obstruction. In some cases more than one technique may be required for severe-choking victims.

AED for children between 1 to 8 years of age: if available the rescuer should use child pads. Some AED units may have a child key or switch on the AED. If the child is very small, you may need to put one pad on the centre of the chest and the other on the child's back to avoid having them touch. Use adult pads if child pads are not available.

Why? Child pads lower the amount of energy delivered compared to adult pads. If no child pads are available, adult pads may be used since providing a shock is better than no shock.

EMS activation: most emergencies occur with several rescuers present who respond as a team. This means activation of EMS may occur alongside assessment for responsiveness and/or breathing. If the rescuer is alone and the victim is a child or infant, activate EMS after providing five cycles of CPR. If a lone rescuer is with an unresponsive adult he/she may check breathing before activating EMS (if not already done).

Why? CPR has traditionally been presented as a sequence of distinct steps to help a single rescuer prioritize actions. However, many workplaces involve teams of rescuers performing several actions simultaneously (e.g., one rescuer activates EMS while another begins CPR).

Jaw thrust: for spinal-injured victims NLS lifeguards attempt a jaw thrust to open the airway. Grasp the jaw on both sides of the face where it forms an angle close to the ears. Using both hands, move the jaw forward (upward) without tilting the head back. If unsuccessful, lifeguards should immediately use the head-tilt/chin-lift method.

Why? The jaw thrust technique may minimize movement of the cervical spine and is appropriate for NLS lifeguards who have received additional training beyond lifesavers.

Jaw thrust

Summary of CPR steps for adults, children and infants
CPR Levels A, B, and C

CPR	Adult (8 years of age and older)	Child (1-8 years of age)	Infant (Less than one year)
Check the scene Establish unresponsiveness	Is the scene safe to help? Wake and shout - gently squeeze or tap shoulders - are you OK?		
Activate EMS & get an AED	Yell for help. If you are alone phone EMS right away	Yell for help. If you are alone phone EMS after giving 5 cycles of CPR	
Check for breathing	Open airway using head-tilt/chin-lift, take no more than 5 seconds to look for normal breathing using visual cues such as chest rise. Gasping is not normal breathing Spinal victims: NLS lifeguards attempt jaw thrust to open the airway		
Start CPR	If victim is unresponsive and not breathing normally, immediately start CPR beginning with chest compressions (30 compressions : 2 breaths) Drowning victims: start CPR sequence with 2 initial breaths before chest compressions		
Compression location	Centre of chest		Just below nipple line on breastbone
Compression method	2 hands: heel of 1 hand, other hand on top (or 1 hand for children)		2 fingers: middle and ring
Compression depth	5 cm or 2 in.	1/3 depth of chest or about (5 cm child or 4 cm infant)	
Compression rate	100 per minute		
Compression ventilation ratio	30:2 (1 or 2 rescuer CPR)		

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