2006 BLS Guidelines Changes

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Special Thanks to:

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The Why…

- To simplify CPR instruction and increase the number of chest compressions delivered per minute and reduce interruptions in chest compressions during CPR.
- Elimination of lay rescuer assessment of signs of circulation before beginning chest compressions: the lay rescuer will be taught to begin chest compressions immediately after delivering 2 rescue breaths to the unresponsive victim who is not breathing

The Why…

- Simplification of instructions for rescue breaths: all breaths (whether delivered mouth-to-mouth, mouth-to-mask, bagmask, or bag-to–advanced airway) should be given over 1 second with sufficient volume to achieve visible chest rise
- Elimination of lay rescuer training in rescue breathing without chest compressions

The Why…

- Modification of the definition of “pediatric victim” to preadolescent (prepubescent) victim for application of pediatric BLS guidelines for healthcare providers, but no change to lay rescuer application of child CPR guidelines (1 to 8 years).

The Why…

- Increased emphasis on the importance of chest compressions: rescuers will be taught to “push hard, push fast” (at a rate of 100 compressions per minute and a 30:2 ratio), allow complete chest recoil, and minimize interruptions in chest compressions

The How…

- The compression to ventilation ratio should be 30:2
- The ventilatory time should be 1 second per breath, enough to make the chest rise.
- The 30 compressions should be delivered in 18-23 seconds.
- The emphasis is compressions with a minimum of interruptions

- Recommendation that Emergency Medical Services (EMS) providers may consider provision of about 5 cycles (or about 2 minutes) of CPR before defibrillation for **unwitnessed** arrest, particularly when the interval from the call to the EMS dispatcher to arrival at the scene is more than 4 to 5 minutes.
- Recommendation for provision of about 5 cycles (or about 2 minutes) of CPR between rhythm checks during treatment of pulseless arrest.

- Recommendation that all rescue efforts, including insertion of an advanced airways (eg, endotracheal tube, esophagealtracheal combitube [Combitube], or laryngeal mask airway [LMA]), administration of medications, and reassessment of the patient be performed in a way that minimizes interruption of chest compressions.
- Recommendations for pulse checks are limited during the treatment of pulseless arrest.

Recommendation of only 1 shock followed immediately by CPR (beginning with chest compressions) instead of 3 stacked shocks for treatment of ventricular fibrillation/ pulseless ventricular tachycardia: this change is based on the high first-shock success rate of new defibrillators and the knowledge that if the first shock fails, intervening chest compressions may improve oxygen and substrate delivery to the myocardium, making the subsequent shock more likely to result in defibrillation

Increased emphasis on the importance of ventilation and de-emphasis on the importance of using high concentrations of oxygen for resuscitation of the newly born infant

- The lone healthcare provider should alter the sequence of rescue response based on the most likely etiology of the victim's problem.
- For sudden collapse in victims of all ages, the lone healthcare provider should telephone the emergency response number and get an AED (when readily available,) then return to the victim to begin CPR and use the AED.

- For unresponsive victims of all ages with likely *asphyxial* arrest (e.g. drowning) the lone healthcare provider should deliver about 5 cycles (about 2 minutes) of CPR before leaving the victim to telephone the emergency response number and get the AED. The rescuer should then return to the victim, begin the steps of CPR, and use the AED.

- After delivery of 2 rescue breaths, healthcare providers should attempt to feel a pulse in the unresponsive, non-breathing victim for no more than 10 seconds. If the provider does not definitely feel a pulse within 10 seconds, the provider should begin cycles of chest compressions and ventilations.
- Healthcare providers will be taught to deliver rescue breaths without chest compressions for the victim with respiratory arrest and a perfusing rhythm (i.e. pulses).
- Rescue breaths without chest compressions should be delivered at a rate of about 10 to 12 breaths per minute for the adult and a rate of about 12 to 20 breaths per minute for the infant and child.

- Healthcare providers should deliver cycles of compressions and ventilations during CPR when there is no advanced airway (eg, endotracheal tube, laryngeal mask airway [LMA], or esophageal-tracheal combitube [Combitube]) in place. Once an advanced airway is in place for infant, child, or adult victims, 2 rescuers no longer deliver “cycles” of compressions interrupted with pauses for ventilation.

- Instead, the compressing rescuer should deliver 100 compressions per minute continuously, without pauses for ventilation. The rescuer delivering the ventilations should give 8 to 10 breaths per minute

The 2 rescuers should change compressor and ventilator roles approximately every 2 minutes to prevent compressor fatigue and deterioration in quality and rate of chest compressions. When multiple rescuers are present, they should rotate the compressor role about every 2 minutes. The switch should be accomplished as quickly as possible (ideally in less than 5 seconds) to minimize interruptions in chest compressions.

Use of AED and Defibrillation for the Child

- When treating a child found in cardiac arrest in the out-of hospital setting, lay rescuers and healthcare providers should provide about 5 cycles (about 2 minutes) of CPR before attaching an AED.
- Most cardiac arrests in children are not caused by ventricular arrhythmias. Immediate attachment and operation of an AED (with hands-off time required for rhythm analysis) will delay or interrupt provision of rescue breathing and chest compressions

- If a healthcare provider witnesses a sudden collapse of a child, the healthcare provider should use an AED as soon as it is available.
- There is no recommendation for or against the use of AEDs for infants (<1 year of age).

Foreign Body Airway Obstruction

- Abdominal thrusts are still the standard for conscious obstruction in the adult
- If the adult victim with FBAO becomes unresponsive, the rescuer should carefully support the patient to the ground, immediately activate EMS, and then begin CPR. A randomized trial of maneuvers to open the airway in cadavers and prospective studies in anesthetized volunteers show that higher sustained airway pressures can be generated using the chest thrust rather than the abdominal thrust.

- Each time the airway is opened during CPR, the rescuer should look for an object in the victim’s mouth and remove it.
- Simply looking into the mouth should not increase the time it takes to attempt the ventilations and proceed to the 30 chest compressions.
- Child and Infant sequences have not changed

- Questions???