The American Heart Association is re-arranging the ABCs of cardiopulmonary resuscitation (CPR) in its 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care, published in Circulation: Journal of the American Heart Association.

Recommending that chest compressions be the first step for lay and professional rescuers to revive victims of sudden cardiac arrest, the association said the A-B-Cs (Airway-Breathing-Compressions) of CPR should now be changed to C-A-B (Compressions-Airway-Breathing).

“For more than 40 years, CPR training has emphasized the ABCs of CPR, which instructed people to open a victim’s airway by tilting their head back, pinching the nose and breathing into the victim’s mouth, and only then giving chest compressions,” said Michael Sayre, M.D., co-author of the guidelines and chairman of the American Heart Association’s Emergency Cardiovascular Care (ECC) Committee.

“This approach was causing significant delays in starting chest compressions, which are essential for keeping oxygen-rich blood circulating through the body. Changing the sequence from A-B-C to C-A-B for adults and children allows all rescuers to begin chest compressions right away.”

In previous guidelines, the association recommended looking, listening and feeling for normal breathing before starting CPR.

Now, compressions should be started immediately on anyone who is unresponsive and not breathing normally.

All victims in cardiac arrest need chest compressions. In the first few minutes of a cardiac arrest, victims will have oxygen remaining in their lungs and bloodstream, so starting CPR with chest compressions can pump that blood to the victim’s brain and heart sooner.

Research shows that rescuers who started CPR with opening the airway took 30 critical seconds longer to begin chest compressions than rescuers who began CPR with chest compressions.

The change in the CPR sequence applies to adults, children and infants, but excludes newborns.

Other recommendations, based mainly on research published since the last AHA resuscitation guidelines in 2005:

• During CPR, rescuers should give chest compressions

• Therapeutic hypothermia, or cooling, should be part of an overall interdisciplinary system of care after resuscitation from cardiac arrest.

• Atropine is no longer recommended for routine use in managing and treating pulseless electrical activity (PEA) or asystole.

Pediatric advanced life support (PALS) guidelines provide new information about resuscitating infants and children with certain congenital heart diseases and pulmonary hypertension, and emphasize organizing care around two-minute periods of uninterrupted CPR.

The CPR and ECC guidelines are science-based recommendations for treating cardiovascular emergencies–particularly sudden cardiac arrest in adults, children, infants and newborns.

The American Heart Association established the first resuscitation guidelines in 1966.

The year 2010 marks the 50th anniversary of Kouwenhoven, Jude, and Knickerbocker’s

landmark study documenting cardiac arrest survival after chest compressions.

Learn more about the American Heart Association's CPR guidelines and get information on First Aid and CPR training at www.heart.org/cpr.