



**American
Red Cross**

Scientific Advisory Council

American Red Cross Scientific Advisory Council Advisory Compression Only CPR by EMS Provider

Overall Recommendation:

Since clinical balance exists on the benefits or risks of Continuous Chest Compressions by EMS providers as compared to Standard CPR, the Resuscitation Subcouncil's recommendation follows the ILCOR recommendation for either protocol to be used in the initial phases of a resuscitation.

Recommendations and Strength (2022):

Standards:

None

Guidelines:

EMS providers should perform CPR with 30 compressions to 2 breaths (30:2 ratio), or continuous chest compressions with PPV delivered without pausing chest compressions. Once a tracheal tube or supraglottic device has been placed, continuous compressions should be performed with ventilations delivered once every six seconds (strong recommendation, high certainty evidence).

Options:

When EMS systems have adopted minimally interrupted cardiac resuscitation, this strategy is a reasonable alternative to conventional CPR for witnessed shockable OHCA (weak recommendation, very low–certainty evidence).

Questions to be addressed:

For adult patients, in non-traumatic cardiopulmonary arrest, when managed by trained healthcare providers, does continuous cardiac compressions (CCC) or hands only CPR, without expired air ventilation, improve outcomes?

Introduction/Overview:

Achieving a favorable outcome for a patient in cardiopulmonary arrest, defined as discharge from a hospital with minimal to no neurological deficits, is highly dependent on early cardiopulmonary resuscitation. However, despite that this fact has been well known for some time, engagement of bystanders to perform CPR has not been robust. In an effort to bridge this gap, community leaders have encouraged the lay public to perform compression only CPR without

ventilations. It is thought that since compression only CPR is easier to learn and doesn't carry the perceived risks of infectious contamination, the public will be more willing to perform compression only CPR compared to traditional CPR with ventilations. Yet, outcome literature on compression only CPR is variable with some studies showing favorable results and others showing equivocal or worse results. Therefore, the ARCSAC examined the outcomes of continuous chest compression CPR without pauses for ventilations compared to traditional CPR with pauses for ventilations, focusing on both the patient and the rescuer. Regarding the patient, the primary outcomes of interest were survival to discharge and survival to discharge neurologically intact. The outcome of interest regarding the rescuer was willingness to perform CPR on a stranger.

Summary of Scientific Foundation (2022):

No new studies have been identified since the prior review. Due to the lack of additional evidence identified, the Resuscitation Sub-council agrees with the existing 2021 ILCOR evidence update: Consistent with ILCOR Evidence Update (2021), we recommend that EMS providers perform CPR with 30 compressions to 2 breaths (30:2 ratio) or continuous chest compressions with PPV delivered without pausing chest compressions until a tracheal tube or supraglottic device has been placed (strong recommendation, high certainty evidence).

We suggest that when EMS systems have adopted minimally interrupted cardiac resuscitation, this strategy is a reasonable alternative to conventional CPR for witnessed shockable OHCA (weak recommendation, very low–certainty evidence).

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