

# The variability Across Different Extracorporeal Cardiopulmonary Resuscitation (ECPR) Systems: A Systematic Literature Review

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**Background:** The survival rate to hospital discharge in patients with cardiac arrest remains poor despite significant advances in cardiopulmonary resuscitation and post-resuscitation care. New approach has been developed to improve patient outcome, which is known as extracorporeal cardiopulmonary resuscitation (ECPR). ECPR is a lifesaving procedure that can be used when conventional resuscitation have failed achieving sustained return of spontaneous circulation. Several centres have established their own protocols to implement ECPR program in their practice leading to different configuration of ECPR systems. Yet, there are no universally accepted criteria for ECPR indications or patients' selection.

**Objective:** We aimed to describe the variability across different ECPR systems in terms of the eligibility criteria in patients with IHCA or OHCA.

**Methods:** A comprehensive literature search was performed in Cochrane library, Ovid EMBASE, and Ovid MEDLINE databases for studies that were published from inception to the search date. A combination of predetermined search terms was used to identify relevant articles. we conducted, also, forward and backward citation tracking to identify any further relevant articles. Studies that met our inclusion criteria were included in this review.

**Results:** A total of 11,635 articles were identified in this review (11,629 from the databases search and 6 additional articles from the citation search). After removing duplicates and title/abstract screening, 360 articles progressed to full-text reading for potential inclusion in this review. After full-text screening, 142 articles were found to be potentially eligible. Of these, 61 articles were further excluded due to duplicate ECPR system. The remaining 81 articles were finally included in this review. (The systematic review is currently in progress, our findings will be available for the poster presentation on the symposium day)

**Keywords:** heart arrest, cardiac arrest, cardiopulmonary resuscitation, extracorporeal cardiopulmonary resuscitation, extracorporeal membrane oxygenation, adult.