

# An Overview on Cardiopulmonary Resuscitation

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## SUMMARY

**Purpose:** Critical interventions, such as early defibrillation, successful chest compressions, and advanced life support, all play a role in the outcome of cardiac arrest and cardiopulmonary resuscitation. In published studies of cardiac arrest, Utstein-style terminology and reporting templates have been widely employed, resulting in a better knowledge of the parts of resuscitation practise and progress toward international consensus on science and resuscitation recommendations. International registers have yet to be formed, despite the introduction of Utstein templates to standardise research reporting of cardiac arrest.

## INTRODUCTION

Critical interventions, such as early defibrillation, successful chest compressions, and advanced life support, all play a role in the outcome of cardiac arrest and cardiopulmonary resuscitation. In published studies of cardiac arrest, Utstein-style terminology and reporting templates have been widely employed, resulting in a better knowledge of the parts of resuscitation practise and progress toward international consensus on science and resuscitation recommendations. International registers have yet to be formed, despite the introduction of Utstein templates to standardise research reporting of cardiac arrest. The International Liaison Committee on Resuscitation (ILCOR) convened a task force in Melbourne, Australia, in April 2002 to assess global experience with the Utstein definitions and reporting templates. By consensus, the task team changed the fundamental reporting template and definitions. Changes to data components and operational definitions were made only on the basis of public data and experience gained from registries that have implemented Utstein-style reporting. Prior Utstein consensus conferences proposed reducing the complexity of existing templates and resolving practical issues in collecting certain core and additional (ie, essential and desired) data items. Inconsistencies in terminology were also resolved between the in-hospital and out-of-hospital Utstein templates. The task force developed a data reporting platform that can be used for both quality improvement (registries) and research reports, and that can be utilised by both adults and children. Practical and succinct operational definitions are included in the redesigned and streamlined template. The redesigned template should make it easier and more accurate to complete all reports of cardiac arrest and resuscitation attempts. Problems with data definition, collecting, linking, confidentiality, management, and registry installation are discussed, as well as possible solutions. Critical interventions, such as early defibrillation, successful chest compressions, and aided ventilation, determine the outcome of cardiac arrest and cardiopulmonary resuscitation (CPR). Despite significant attempts to enhance cardiac arrest treatment, the majority of reported survival outcomes are dismal. If patient outcomes are to improve, a comprehensive assessment of all relevant risk factors and therapies is required.

During cardiopulmonary resuscitation, chest compressions should be quick pushes

A major multicentre prospective observational study found that more than half of rescuers doing Cardiopulmonary Resuscitation (CPR) performed chest

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compressions faster than the recommended rate of 100 per minute in adult patients with out-of-hospital cardiac arrest.

### In cardiac arrest, vasopressin has no advantage over epinephrine

There is limited evidence that vasopressin and epinephrine can promote recovery of spontaneous circulation and hospital discharge survival in the same way. Because simplicity is key during resuscitation attempts, the updated guideline particularly suggests that epinephrine be given as quickly as feasible after cardiac arrest.[1-5]

Critical interventions, such as early defibrillation, successful chest compressions, and advanced life support, all play a role in the outcome of cardiac arrest and CPR. It is critical to recognise cardiac arrest as soon as possible in order to summon emergency medical services (EMS) and begin CPR. In this day and age, everyone has access to a cell phone. Because chest compressions are so important for coronary artery perfusion, breaks in chest compressions should be kept to a minimum, and any interruptions should be as brief as feasible. Resuscitation evolved over thousands of years, along a meandering path of creative innovation,

serendipitous observation, gradual adoption, and forgotten-then-rediscovered wisdom, all of which collided in the 1950s to usher in the contemporary era of CPR.

### CONFLICTS OF INTEREST

The authors declare no competing interests.

All authors declare that the material has not been published elsewhere, or has not been submitted to another publisher.

### DATA AVAILABILITY

Authors declare that all related data are available concerning researchers by the corresponding author's email.

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