

COCHRANE CORNER

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Dispatcher-assisted CPR for out of hospital cardiac arrest

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Background

Cardiovascular disease is a major cause of death in first world countries.¹ Most cardiac arrests occur outside of the hospital environment and survival rates have traditionally been poor.^{2,3,4} Early cardiopulmonary resuscitation (CPR) can improve the likelihood of patient survival^(5,6) with initiation of bystander CPR further increasing the chance of survival.^{7,8,9} However, only one third of cardiac arrest patients typically receive CPR before the arrival of emergency medical services (EMS).^{8,9,10,11,12} Dispatcher-assisted CPR can increase the proportion of cardiac arrest victims who receive bystander CPR prior to EMS arrival.^{13,14} The rationale for dispatcher-assisted CPR is based on the assumption that CPR can maintain myocardial viability and slow brain death.¹⁵ Dispatcher-assisted CPR allows bystanders to commence CPR at the scene of the arrest using instructions delivered by an EMS dispatcher over the telephone. Dispatcher-assisted CPR commenced in the United States in the early 1980's, with the United Kingdom, Sweden, Norway, Finland, Germany, Austria and Australia now using the system.¹⁶

Data Source

The Cochrane Library 2005, Issue 1.

Search Terms

[Prehospital Search Filter Version - 1.0](#)¹⁷

Cardiac arrest, heart arrest, heart attack, sudden death, CPR, cardiopulmonary resuscitation, bystander CPR, bystander cardio*, emergency resus*, emergency dispatch*, emergency despatch*, assist*, instruct*, guid*, infor*,

Search Results

Protocols

None

Systematic Reviews

None

Clinical Trials

Two

· Dorph E, Wik L, Steen PA. Dispatcher-assisted cardiopulmonary resuscitation. An evaluation of efficacy among the elderly. *Resuscitation* 2003;56(3):265-273

· Hallstrom AP. Dispatcher-assisted "phone" cardiopulmonary resuscitation by chest compression alone or with mouth-to-mouth ventilation. *Crit Care Med* 2000;28(11 Suppl):N190-N192

Commentary

Both of these studies were randomised controlled trials with an intervention arm receiving telephone instructions for chest compression alone compared to instructions for standard CPR with mouth-to-mouth ventilation. The median period from dispatcher contact until continuous CPR was significantly longer for standard instructions than for compression only and fewer chest compressions were administered during standard CPR compared to chest compressions alone. No studies were identified in the Cochrane Library that compared bystander CPR with dispatcher-assistance to no CPR or to CPR without dispatcher-assistance, and no studies assessed the association between dispatcher-assisted CPR and survival from out of hospital cardiac arrest. A study (not located in the Cochrane Library) conducted in a simulated cardiac arrest setting found that it was possible to instruct previously untrained bystanders with brief instructions given over the telephone and that the resulting CPR was effective and comparable to the quality of the CPR performed by trained volunteers.¹⁸

The Bottom Line

In the event of an actual cardiac arrest situation the association between dispatcher-assisted CPR and survival from out of hospital cardiac arrest remains questionable.

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