A Swedish study has found that bystander cardiopulmonary resuscitation doubled the likelihood of survival in people who experienced out-of-hospital cardiac arrest.

How successful is out-of-hospital bystander CPR?

In this article...

- Effectiveness of bystander CPR
- Recommendations for CPR training

In England, an estimated 28,000 people experience out-of-hospital cardiac arrest and undergo resuscitation by ambulance staff each year (Perkins et al, 2015). The proportion of these people who survive and go home is 7–8%.

The Resuscitation Council (UK) has made a number of recommendations to improve survival from out-of-hospital cardiac arrest, including:
- Everyone able to learn CPR should do so;
- All schoolchildren should be taught CPR and how to use an automated external defibrillator (AED);
- Defibrillators should be available in places with large numbers of people, where there is an increased risk of cardiac arrest, or where access to emergency services can be delayed.

New evidence


Data was obtained from the Swedish Cardiac Arrest Registry on all cases of out-of-hospital cardiac arrest that were witnessed by bystanders and treated by emergency medical services. Cases were included in the registry if the person was not breathing and had no signs of circulation, and if CPR, defibrillation or both were started.

A total of 61,781 people who had out-of-hospital cardiac arrest were included in the registry between 1990 and 2011. This analysis assessed 30,381 people who had bystander-witnessed cardiac arrest and had data available on both the start of CPR and survival. Of these people, about half (51.1%) received CPR before the arrival of the emergency medical services.

The 30-day survival rate was 10.5% among people with out-of-hospital cardiac arrest who received CPR before the arrival of emergency medical services, and 4% among those who did not. The survival rate decreased in line with time from collapse to start of CPR, with the rate being 15.6% among people who received CPR within three minutes and 0.9% in people who received CPR after 15 minutes or more.

In analysis adjusted for variables, such as place of cardiac arrest and time until arrival of emergency medical services, people who received bystander CPR were twice as likely to survive to 30 days.

Strengths of this study include the use of a large national sample. Limitations include that time to the start of CPR was estimated and some information in the registry was retrospectively reported.

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References


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