

Dispatcher-assisted bystander CPR best choice for possible cardiac arrest signs

December 22 2009

Dispatchers should assertively give cardiopulmonary resuscitation (CPR) instructions to bystanders who suspect someone is in cardiac arrest because the benefits from correctly recommending CPR for someone who needs it greatly outweigh the risks from recommending CPR for someone who does not, researchers said in *Circulation: Journal of the American Heart Association*.

"Early CPR improves outcomes from [cardiac arrest](#); yet, only a modest portion of victims receive early CPR from bystanders," said author Thomas D. Rea, M.D., M.P.H., Program Medical Director, King County Medic One, EMS Division, Kent, Wash., and Associate Professor of Medicine, Harborview Medical Center at the University of Washington.

"We know that dispatcher instructions can increase survival by enabling early bystander CPR. While the goal is to support dispatcher-assisted CPR programs, concerns remain about the potential for CPR to injure people who may not be experiencing cardiac arrest. We did this study to determine the frequency of dispatcher-assisted CPR for patients not in arrest and the frequency and severity of injury related to chest compressions."

Rea and colleagues studied data from 1,700 adult patients whose bystanders received CPR instructions from dispatchers in King County, Wash., between June 2004 and January 2007. Of all patients, 55 percent (938) were in cardiac arrest and 45 percent (762) weren't.

Of the patients who were not in cardiac arrest, 46 percent (313/686) progressed to chest compressions with instructions from a dispatcher. CPR for the others was discontinued, possibly because the patient regained consciousness or started breathing normally before chest compressions began, Rea said.

Researchers analyzed hospital charts of 247 non-arrest patients who received dispatcher-assisted chest compressions and were transported to the hospital. Of these patients:

- 11 percent (26) suffered discomfort or injuries probably resulting from CPR;
- 9 percent (22) reported discomfort, including soreness and tenderness of the chest;
- 2 percent (four) suffered fractures (three due to [chest compressions](#) and one from repositioning the patient from the bed to the floor in preparation for CPR).

Fracture was the most serious injury reported.

The study affirms the positive balance in favor of the lifesaving value of dispatcher-assisted bystander CPR, said Rea.

"We know that early CPR from a bystander improves survival, and from our study, poses only a minimal risk of injury when guided by dispatchers," he said. "So it seems reasonable to continue challenging communities nationwide to increase bystander CPR through assertive dispatch programs."

Rea doesn't recommend changing the method dispatchers use to

determine whether to proceed with CPR instructions for possible cardiac arrest as long as the approach is straightforward and quick. Using the current method employed by King County, if the patient is unconscious and not breathing normally, the dispatcher instructs the bystander to perform CPR.

"Among other things, adding questions would take extra time. And when it comes to administering CPR for cardiac arrest, time is of the essence," Rea said.

A limitation of the study is that the data is only from King County, which has a mature emergency medical services (EMS) system. Whether other communities would replicate the findings is not certain.

Another limitation is that researchers used hospital records and patient interviews to assess injury. Unreported or unapparent injuries might not be reflected in this study.

Future research should aim at improving individual community's dispatcher-assisted CPR programs, to increase the proportion of those who receive early bystander CPR, Rea said. "Dispatchers are a critical link that can make a positive difference in survival," Rea said. "EMS systems, hospital stakeholders and dispatchers should actively partner to ensure that dispatchers' performance is part of the overall process for measuring care and outcomes for cardiac arrest patients."

Provided by American Heart Association

Citation: Dispatcher-assisted bystander CPR best choice for possible cardiac arrest signs (2009, December 22) retrieved 26 April 2024 from <https://medicalxpress.com/news/2009-12-dispatcher-assisted-bystander-cpr-choice-cardiac.html>

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