

## Guidelines-based CPR saves more non-shockable cardiac arrest victims

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People who have a cardiac arrest that can't be helped by a defibrillator shock are more likely to survive if given CPR based on updated guidelines that emphasize chest compressions, according to research reported in the American Heart Association journal, *Circulation*.

"By any measure — such as the return of pulse and circulation or improved brain recovery — we found that implementing the new guidelines in these patients resulted in better outcomes from [cardiac arrest](#)," said Peter J. Kudenchuk, M.D., lead author of the study and professor of medicine at the University of Washington in Seattle, Wash.

The [American Heart Association](#) changed its CPR guidelines in 2005 to recommend more [chest compressions](#) with fewer interruptions. The emphasis on chest compressions continued in the 2010 guidelines update.

After the 2005 guidelines, several studies showed improved [survival](#) from shockable cardiac arrest.

However, new evidence shows that most cardiac arrests — nearly 75 percent — are due to conditions that don't respond to shocks. In such patients there have been few, if any, life-saving treatments and it was uncertain whether CPR guidelines changes were beneficial.

"Now, for the first time, we have seen a treatment that improves survival specifically in these patients," Kudenchuk said. "And that treatment is

simply providing the more intense, quality CPR recommended in the new guidelines. You could save 2,500 more lives each year in North America alone by implementing these changes."

Researchers identified 3,960 patients in King County, Wash., who suffered a type of cardiac arrest that doesn't respond to shock from a defibrillator, known as non-shockable cardiac arrest.

They compared survival rates among patients who had non-shockable cardiac arrests from 2000-2004 — before the 2005 guidelines changes — to those who had non-shockable arrests from 2005-2010 and found:

- The likelihood of survival to discharge from the hospital improved from 4.6 percent before to 6.8 percent after the new guideline changes.
- The proportion of patients who survived with good brain function increased from 3.4 percent to 5.1 percent between study periods.
- One-year survival almost doubled from 2.7 percent to 4.9 percent.

Although survival in [patients](#) with non-shockable cardiac arrest is low, the important message from this study is that it can be improved. Potentially thousands of lives could be saved each year in this group if [CPR guidelines](#) are properly implemented, said Kudenchuk.

Further research is needed to find better treatments for cardiac arrest and to verify these study results. Researchers continue to study new approaches to resuscitation through clinical trials, such as those currently being conducted by the Resuscitation Outcomes Consortium, which is supported by the American Heart Association; the National Heart, Lung, and Blood Institute; and the Canadian Institutes of Health Research.

Provided by American Heart Association

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