

Saving Lives With Cell Phones

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(PhysOrg.com) -- Research shows that only one-third of people who have been trained in CPR will actually perform CPR in an emergency - the other two-thirds do nothing. Bystanders frequently state that they don't act because they believe they don't know how to perform CPR correctly, and some say they're worried they will do more harm than good. New University of Pennsylvania School of Medicine research shows that CPR coaching through a cell phone audio recording is one way to help bystanders overcome their fears and save lives in real time.

"We know that it's hard to remember the complex, sequential steps of CPR that people learn in a classroom setting -- especially in an emergency situation with no warning," says lead author Raina Merchant, MD, a Hospital of the University of Pennsylvania [emergency physician](#) and Robert Wood Johnson Foundation Clinical Scholar. "Our new findings show that even without training, anyone can save a life with the push of a button on their cell phone."

In a study published online February 26 in [Annals of Emergency Medicine](#), the Penn researchers found that the use of a simple audio recording accessible by both basic cell phones and the latest, most high-tech smart phones improved the quality of CPR performed and boosted rescuers' confidence about their ability to perform the technique. The findings offer hope for buoying cardiac arrest survival, since early bystander CPR can double chances of survival from cardiac arrest. In most U.S. cities, more than 90 percent of arrest victims die, and for every minute without blood flow when the heart stops beating properly, odds for survival without [brain damage](#) plummet.

The authors evaluated the quality of CPR performed by people who are both trained and untrained in CPR, and both with and without a phone equipped with a CPR instruction aide. The findings showed that regardless of training history, participants using the audio recording on their phone performed significantly better CPR on a mannikin compared with participants without the phone. Those who listened to the cell phone recording performed 100 compressions per minute - the recommended rate - versus 44 per minute in the control group who had no audio help, and achieved compression depth of 41 millimeters, versus 31 millimeters (seven inches too shallow) in the control group. Ninety-seven percent of the cell phone group demonstrated correct hand placement, versus 75 percent of the control group, and 73 percent of the cell phone group reported feeling excellent or very good about their ability to perform CPR, more than double those in the control group (34 percent).

Provided by University of Pennsylvania School of Medicine

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