

Contact: Daniel Stolte

stolte@email.arizona.edu

520-626-4083

[University of Arizona Health Sciences Center](#)

Gasping helps cardiac arrest victims survive

Gasping should not be mistaken for breathing and CPR should be initiated

People who witness an individual collapse suddenly and unexpectedly should perform uninterrupted chest compressions even if the patient gasps or breathes in a funny way, research from the Resuscitation Research Group at The University of Arizona Sarver Heart Center shows. The study is set to publish in the Nov. 24 online issue of *Circulation*, the official journal of the American Heart Association, <http://circ.ahajournals.org>.

When an individual breathes abnormally or gasps after collapsing from sudden cardiac arrest there is a greater chance of surviving, the researchers report. Gasping can be thought of as a survival reflex triggered by the brain.

Each day, about 500 Americans collapse because their hearts suddenly stop beating. Data collected by Sarver Heart Center researchers show that in more than half of witnessed cardiac arrest cases, the patient gasped.

"Gasping is an indication that the brain is still alive, and it tells you that if you start and continue uninterrupted chest compressions, the person has a high chance of surviving," said Gordon A. Ewy, MD, corresponding author of the study, professor and chief of cardiology at the UA and director of its Sarver Heart Center. "We need people to promptly recognize sudden cardiac arrest, to call 9-1-1 and to start chest compressions right away."

Gasping has been described as snoring, gurgling, moaning, snorting or agonal or labored breathing. However, bystanders often misinterpret gasping and other unusual vocal sounds as normal breathing and don't call 9-1-1 or begin lifesaving chest compressions quickly enough, Dr. Ewy said.

The authors hope their findings lead to greater willingness of untrained bystanders to jump in and perform continuous chest compressions. Bystander-initiated CPR has been shown to be a

cardiac arrest victim's only chance of survival until an automated external defibrillator or the paramedics get to the scene.

Many bystanders are hesitant to perform mouth-to-mouth ventilation, and in a case of a witnessed (seen or heard) collapse, so-called rescue breathing is not necessary and may be harmful, Dr. Ewy said. "When the patient gasps, there is a negative pressure in the chest, which not only sucks air into the lungs but also draws blood back to the heart. In contrast, mouth-to-mouth breathing creates overpressure in the chest and actually inhibits blood flow back to the heart. Gasping during cardiac arrest is much better than mouth-to-mouth breathing."

But what about choking? "That's very different," Dr. Ewy said. "Someone who is choking will be seen to grasp their throat and struggle to breathe, which means they're responsive. These individuals need the Heimlich maneuver." A primary cardiac arrest is the witnessed unexpected collapse of an individual who is not responsive, Dr. Ewy said. "Cardiac arrest will cause the stricken individual to pass out and collapse to the ground within seconds."

The Arizona researchers examined data from two sources. Transcripts from the Phoenix Fire Department Regional Dispatch Center included information on gasping in patients found by bystanders, whether their collapse was witnessed or not. The department's first-care reports on 1,218 witnessed patients provided the incidence of gasping upon or after the arrival of emergency medical service (EMS) personnel. Among the 481 patients who received bystander CPR, 39 percent of gaspers survived, but only 9.4 percent of those who didn't gasp survived.

Performing uninterrupted chest compressions (a technique developed at the UA Sarver Heart Center and endorsed by the American Heart Association as "Hands-Only CPR" for lay individuals) may cause a person who has stopped gasping to resume gasping. "This scares many people and they stop pressing on the chest," Dr. Ewy said, "This is bad because gasping is an indication that you're doing a good job."

###

The authors of the study are: Bentley J. Bobrow, MD; Mathias Zuercher, MD; Gordon A. Ewy, MD; Lani Clark, BS; Vatsal Chikani, MPH,; Dan Donahue BS, NREMT-P, Arthur B. Sanders, MD; Ronald W. Hilwig, DVM; Robert A. Berg, MD; and Karl B. Kern, MD.

The study was funded in part by a grant from the Arizona Department of Health Services Bureau of Emergency Medical Services.



*Your complimentary
use period has ended.
Thank you for using
PDF Complete.*

[Click Here to upgrade to
Unlimited Pages and Expanded Features](#)

Important note: Experts continue to promote a combination of rescue breathing and chest compressions for victims of cardiac arrest due to non-cardiac causes, like near drowning or electrocution, and all victims of pediatric cardiac arrest.
