



Sarver Heart Center



Together with other members of The University of Arizona Sarver Heart Center Resuscitation Research Group, Arthur B. Sanders, MD (left) and Karl B. Kern, MD have pioneered groundbreaking advances in the ‘Chain of Survival’ that have led to better chances of surviving out-of-hospital cardiac arrest. Photos courtesy of Martha Lochert (left) and UA Sarver Heart Center.

Surviving Cardiac Arrest - Location, Location, Location

An editorial in this week’s issue of the Journal of the American Medical Association (JAMA) by researchers at The University of Arizona Sarver Heart Center draws national attention.

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From: Daniel Stolte, UA Sarver Heart Center

TUCSON, Ariz. – An analysis of emergency medical services (EMS)–treated cardiac arrest outcomes in 10 areas in North America finds a five-fold difference in survival rates, according to a study in the September 24 issue of *JAMA*.

In an accompanying editorial, **Arthur B. Sanders, M.D., and Karl B. Kern, M.D., of The University of Arizona Sarver Heart Center** write that “this wide variability in outcome emphasizes the pressing need for each community to first ‘know its numbers,’ then concentrate on improving survival rates by focusing on locally identified problem areas within the chain of survival.”

Drs. Sanders and Kern point to the example of two Wisconsin counties, where neurologically intact survival for patients with witnessed cardiac arrest and a shockable heart rhythm improved from 15 to 39 percent after emergency medical services implemented a modified resuscitation protocol developed by the UA Resuscitation Research Group.

“Protocol and technique can be more important than location for survival of out-of-hospital cardiac arrest,” the authors write in their editorial.

The UA Sarver Heart Center has played a crucial role in improving the ‘chain of survival’ for out-of-hospital cardiac arrest (OHCA) through its concept of Cardiocerebral Resuscitation:

- A simpler, more effective CPR for bystanders (Compression-Only CPR);
- A modified resuscitation protocol for paramedics/firefighters;
- Aggressive post-resuscitation hospital care, including catheterization to open blocked coronary vessels and therapeutic hypothermia (cooling) to prevent or minimize brain damage.

Approximately 166,000 to 310,000 Americans per year experience an out-of-hospital cardiac arrest, although resuscitation is not attempted in many of these cases. Graham Nichol, M.D., M.P.H., of the University of Washington, Seattle, and colleagues conducted a study to determine whether cardiac arrest incidence and outcome differed across geographic regions. The study included data on all out-of-hospital cardiac arrests in 10 North American sites (8 U.S. and 2 Canadian) from May 2006 to April 30, 2007, followed up to hospital discharge, and including data available as of June 28, 2008. Cases were assessed by organized emergency medical services (EMS) personnel. The ten sites were participants in the Resuscitation Outcomes Consortium, and were located in: Alabama; Dallas; Iowa; Milwaukee; Ottawa, Ontario; Pittsburgh; Portland, Ore.; Seattle; Toronto; and Vancouver, British Columbia.

Among the 10 sites, with a total population of 21.4 million for the areas studied, there were 20,520 cardiac arrests assessed by EMS personnel.

MEDICAL WRITERS/ASSIGNMENT EDITORS NOTE:

The editorial and the study reports are available to the media at www.jamamedia.org. Please see the articles for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.

High-resolution images are available upon request. Please contact Daniel Stolte at (520) 626-4083.

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The UA Sarver Heart Center is a Center of Excellence at the University of Arizona engaging in basic and clinical research, patient care, training of healthcare professionals and public education. It is home to more than 120 physicians and scientists working toward a future free of heart disease and stroke. To learn more, visit www.heart.arizona.edu

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