

## Team finds way to classify post-cardiac arrest patients to better predict outcomes

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A new method for scoring the severity of illness for patients after cardiac arrest may help to predict their outcomes, according to researchers at the University of Pittsburgh School of Medicine. Most importantly, their findings, published in the early online version of *Resuscitation*, also show that none of the severity categories rules out the potential for a patient's recovery.

"Traditionally, we have used historical or event-related information, such as initial [cardiac rhythm](#) or whether someone witnessed the collapse, to categorize these patients upon arrival at the hospital," said Jon C. Rittenberger, M.D., lead author and assistant professor of [emergency medicine](#). "Unfortunately, more than 10 percent of the time, such information is unavailable, which limits our ability to tailor therapies, counsel families about prognosis or select patients for clinical trials."

[Cardiac arrest](#) is the most common cause of death in North America, resulting in approximately 350,000 deaths each year.

The researchers looked at retrospective data for more than 450 post-cardiac arrest patients treated at UPMC Presbyterian between January 2005 and December 2009. Both in-hospital and out-of-hospital cardiac arrests were included. In 2007, the hospital implemented a multi-disciplinary post-cardiac arrest care plan, including therapeutic [hypothermia](#), or cooling of patients to minimize [brain damage](#).

Four distinct categories of illness severity were identified based on a

combination of neurological and cardiopulmonary dysfunction during the first few hours after restoration of a patient's spontaneous circulation. The researchers looked at rates of survival, neurologic outcomes and development of multiple [organ failure](#) for patients in each category, and found wide variations among the groups.

"Now, objective data available to the clinician at the bedside during initial evaluation may provide a better way of predicting outcomes and guiding the decisions of families and clinicians. We found that the category of illness severity had a stronger association with survival and good outcomes than did such historically used factors as initial rhythm of arrest or where it happened," said Dr. Rittenberger. "Our results indicate that illness severity should be carefully measured and accounted for in future studies of therapies for these patients."

Provided by University of Pittsburgh Schools of the Health Sciences

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