Published in final edited form as:

N Engl J Med. 2013 March 14; 368(11): 1058–1059. doi:10.1056/NEJMe1300397.

Weighing the Benefits and Burdens of Witnessed Resuscitation

Daniel B. Kramer, M.D. and Susan L. Mitchell, M.D., M.P.H.

From the Beth Israel Deaconess Medical Center, Hebrew SeniorLife Institute for Aging Research, and Harvard Medical School – all in Boston

More than 80% of sudden cardiac arrests (SCA) occur outside of hospital settings.¹ Less than 10% of these patients survive to hospital discharge, accounting for hundreds of thousands of deaths annually worldwide.^{2,3} Prior work on SCA interventions has largely focused on patients' immediate⁴ and post-resuscitation care.⁵ However, SCA victims include not only the patients but also their family members, some of whom may have witnessed the arrest and resuscitative efforts. Minimizing the potential adverse mental health outcomes for these family members is an important component of easing the public health burden of SCA.

There are no accepted strategies for reducing the psychological trauma in SCA bystanders. One controversial but understudied approach is family witnessed resuscitation (FWR), in which relatives are invited to be present for resuscitation. Theoretical benefits, such as closure and transparency for families, must be balanced with possible harms including interference with resuscitation efforts, medicolegal complexities, and psychological harm from observing potentially brutal and dehumanizing events.⁶ Current American Heart Association guidelines note the relatively thin evidence supporting FWR but offer a cautious endorsement: "In the absence of data documenting harm and in light of data that it may be helpful, offering select family members the opportunity to be present during a resuscitation is reasonable and desirable."⁷

In this issue of the *Journal*, Jabre and colleagues present an innovative and ambitious study evaluating out-of-hospital SCAs in France.⁸ The investigators randomized 570 relatives of patients experiencing SCA to standard care or an intervention arm in which the medical team systematically offered the choice to observe or not observe the resuscitation. When given the choice to do so, 79% of these relatives observed resuscitation compared to 43% of those in the control group. The primary outcome, the proportion of relatives with > 30 on Impact of Event Scale at 90 days, was greater in the standard care versus intervention arm (37% vs 27%, adjusted odds ratio 1.7, 95% confidence interval 1.2–2.5, $P=0.004$). Anxiety was also higher in the control group. Secondary analyses comparing outcomes between family members who did and did not witness the arrest, regardless of randomization allocation, found better mental health outcomes among those who witnessed the arrest, with no differences in medical team performance or patient survival.

This study provides useful data that will advance debate surrounding FWR. Most notably, when offered the choice to witness resuscitative efforts most relatives opted to do so, and that by having that choice, their mental health outcomes were better with no evidence of harm to any stakeholders. However, several considerations warrant caution before translating this into clinical practice. First, it is critical to underscore that the tested intervention was offering relatives the *choice* to be present at the SCA. Secondary analyses

Disclosure:

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

comparing groups who did and did not *actually* witness the resuscitation, while suggestive of benefit, must be interpreted with caution as this was not the basis of randomization. Second, the intervention involved well-trained medical teams following a scripted protocol, a designated support assistant charged with carefully explaining of the resuscitative efforts, and a comprehensive post-resuscitation debriefing from a qualified physician. Thus, it would be imprudent to adopt this strategy into clinical practice without a similar commitment to training and staffing emergency response teams, and understanding the cost-effectiveness of such an approach. Third, it would be helpful to know whether characteristics (either of the SCA event or the family) predict benefits from this choice. Fourth, a better understanding of *why* this intervention improved mental health outcomes would help interpret the study's findings. A qualitative study of these families may elucidate what really matters to relatives under such trying circumstances and suggest further refinements to this delicate intervention. Finally, while the choice and timing of the trial's outcomes are substantiated by prior research,⁹ it would be valuable to know the impact of the intervention beyond 90 days and on other relevant downstream measures, such as complicated grief.

Family members of patients who suffer out-of-hospital SCA face many hardships, most commonly the death of their loved ones. Research in end-of-life care has sought to better understand the balance between support for autonomy and informed decision-making with more paternalistic instincts to protect patients from difficult scenarios and options.¹⁰ In the case of SCA, offering the choice to families to witness resuscitation may lessen their psychological burden, and this strategy warrants further consideration by clinicians, researcher, and policy makers. Next steps will include a clearer understanding of why this choice may improve the suffering of family members, and whether such an approach could be implemented in practice in a safe and cost-effective manner.

Acknowledgments

Funding: Dr. Kramer is the Lois Green Scholar at the Hebrew SeniorLife Institute for Aging Research, and is supported by KL2 Medical Research Investigator Training (MeRIT) award from Harvard Catalyst | The Harvard Clinical and Translational Science Center (National Center for Research Resources and the National Center for Advancing Translational Sciences, National Institutes of Health Award 8KL2TR000168-05). Dr. Mitchell is supported by NIH-NIA K24AG033640. The content is solely the responsibility of the authors and does not necessarily represent the official views of Harvard Catalyst, Harvard University and its affiliated academic health care centers, or the National Institutes of Health.

References

1. Bardy GH, Lee KL, Mark DB, et al. Rationale and design of the Home Automatic External Defibrillator Trial (HAT). *Am Heart J*. 2008; 155:445–54. [PubMed: 18294476]
2. Nichol G, Thomas E, Callaway CW, et al. Regional variation in out-of-hospital cardiac arrest incidence and outcome. *JAMA*. 2008; 300:1423–31. [PubMed: 18812533]
3. Atwood C, Eisenberg MS, Herlitz J, Rea TD. Incidence of EMS-treated out-of-hospital cardiac arrest in Europe. *Resuscitation*. 2005; 67:75–80. [PubMed: 16199289]
4. Olasveengen TM, Sunde K, Brunborg C, Thowsen J, Steen PA, Wik L. Intravenous drug administration during out-of-hospital cardiac arrest: a randomized trial. *JAMA*. 2009; 302:2222–9. [PubMed: 19934423]
5. Holzer M. Targeted temperature management for comatose survivors of cardiac arrest. *N Engl J Med*. 2010; 363:1256–64. [PubMed: 20860507]
6. Boyd R. Witnessed resuscitation by relatives. *Resuscitation*. 2000; 43:171–6. [PubMed: 10711485]
7. Morrison LJ, Kierzek G, Diekema DS, et al. Part 3: ethics: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2010; 122:S665–75. [PubMed: 20956219]
8. PJ, VB, EA, et al. Family Presence during Cardiopulmonary Resuscitation. *N Engl J Med*. 2013

9. Lautrette A, Darmon M, Megarbane B, et al. A communication strategy and brochure for relatives of patients dying in the ICU. *N Engl J Med*. 2007; 356:469–78. [PubMed: 17267907]
10. Wright AA, Zhang B, Ray A, et al. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment. *JAMA*. 2008; 300:1665–73. [PubMed: 18840840]