

Out-of-Hospital Cardiac Arrest (OHCA) in Rhode Island: Can We Do Better?

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In this month's issue of the *Rhode Island Medical Journal* (RIMJ) we have gathered local experts in the management of Out-of-Hospital Cardiac Arrest (OHCA) to present the current state of affairs and a timely assessment of new frontiers in this dynamic field. No Emergency Medical Services (EMS) complaint touches as many parts of our health system like OHCA. The stakes are literally life and death, and yet the

outcome in OHCA varies dramatically in the United States health system.¹ Successful management of OHCA requires a series of events described by the American Heart Association as the "Chain of Survival"² that starts well before the victim collapses with prevention, system design, training (of bystanders, dispatchers, first responders, EMS and hospital staff), data fidelity and the repositioning of resources including response assets, defibrillators, and trained bystanders.

March of 2017 proved to be an important moment for EMS in Rhode Island (RI) as it saw the rollout of a total reimagining of the RI Statewide EMS Protocols and Standing Orders.³ This revamp touched every level of provider and every disease state, and represented years of effort by committed volunteers and public servants. The EMS Protocols were reformatted and scope of practice and treatments were modified to reflect current best evidence. Traditionally, EMS has focused on the stabilization and rapid transport of life-threatening presentations; however, recent trends in the management of some disease states (like OHCA) have focused on providing timely, high quality care on scene, rather than the prior mantra of "scoop and run" in the severely ill or injured patient.

Following the "chain of survival" concept we open with **JASON RHODES**, et al. and their take on the use of EMS data to plan for, respond to and debrief events like OHCA. Next in the chain, **HEATHER RYBASACK-SMITH**, et al. review the evidence for using dispatchers as "the 1st, first responders" through the delivery of just-in-time CPR instruction for bystanders of OHCA. One of the driving factors behind changes in the OHCA protocol for EMS providers was a realization that the care they provided on scene was in many ways equal to what is provided in the emergency department, and that the quality of these interventions degraded during transport operations, making scene management essential. **LEO KOBAYASHI**, et al. present a subset of data from their STORM Resuscitation trial that demonstrates improved management of OHCA using mechanical adjuncts during transport of the patient.

Changes in EMS Protocols provide unique opportunities to assess their impact across a system. **JONATHAN THORNDIKE**, et al. performed a pilot study of OHCA outcomes comparing the first month of system-wide protocol with the same month the year before. **JOSEPH LAURO**, et al. discuss a case report of a success story from the RI EMS system; a woman who collapsed in her home, was treated there by



Members of the Cumberland Fire and Police Departments assist Cumberland EMS paramedics and physicians during a simulated out-of-hospital cardiac arrest. [PHOTO: JOHN PLIAKAS]

EMS providers, and later a community ED, a critical care EMS agency and an academic medical center, going home after a successful outcome. Finally, **TANYA SUTCLIFFE**, et al. review the literature on the management of pediatric OHCA, with particular focus on the differences in arrest etiology, as well as the challenges of managing this population at the scene of their arrest.

We look forward to generating a robust discussion over the management of OHCA in RI and invite our colleagues to share their experiences with these protocol changes. EMS management of OHCA is a dynamic field, and as the science advances nationally, so will our EMS system locally. By embracing a “chain of survival” approach to system design and operations and by gathering and reviewing the relevant data, we hope Rhode Island will join other high performing systems in delivering outstanding care for our patients who need us most, those in cardiac arrest.

References

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Disclaimers

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the Department of Emergency Medicine, Alpert Medical School of Brown University.

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