

Cardiac Arrest in the Emergency Department

Kayser, RG et al. Cardiac Arrest in the Emergency Department. A Report from the American Heart Association National Registry of Cardiopulmonary Resuscitation. *Resuscitation* 2008;78:151-160.

[http://www.resuscitationjournal.com/article/S0300-9572\(08\)00172-X/abstract](http://www.resuscitationjournal.com/article/S0300-9572(08)00172-X/abstract)

- There are limited comparative data for cardiac arrest in the emergency department (ED) versus other inpatient areas
- Cardiac arrest patients in the emergency department have better survival compared to patients arresting in other hospital locations
- This is a call to action for improved resuscitation efforts in hospitalized patients

Top Ten Things To Know Cardiac Arrest in the Emergency Department

1. This study was conducted to determine characteristics and outcomes of emergency department (ED) cardiac arrest (CA) events and compare them to cardiac arrests occurring in other hospital units.
2. ED patients had a higher prevalence of VF (22.2%) and lower prevalence of asystole as the initial rhythm compared to other in-hospital patients (14.8% ICU, 9.5% floor, 17.8% telemetry).
3. ED patients had a lower prevalence of asystole (33%) as the initial rhythm compared to other in-hospital patients (35.4% ICU, 53.2% floor and 40% telemetry).
4. ED and ICU patients had the lowest median time (zero minutes) to first defibrillation.
5. ED patients had the lowest median time (3 minutes) to establishment of an invasive airway.
6. ED location was an independent positive predictor of improved survival, suggesting that processes of care in the ED might contribute to important differences in clinical outcomes (for example physician on-site, staff usually trained in ACLS/PALS and more frequent use of resuscitation skills).

7. ED cardiac arrest patients are a unique population and have a better survival to discharge (22.8%) compared to patients arresting in other hospital locations (15.5% ICU, 19.8% telemetry, 10.8% floor).

8. ED patients, when compared to patients in other locations, did better with the secondary outcome measures: ED patients were less likely to be declared DNAR (Do Not Attempt Resuscitation); had shorter mean post event length of stay (LOS); and had significantly better discharge overall performance categories/cerebral performance categories (OPC/CPC) values.

9. Patients having recurrent CA in the ED who had been successfully resuscitated prior to hospital arrival frequently had asystole (42.8% vs 29.3%) as the first pulseless rhythm, were less likely to survive to discharge (10.1% vs 24.6%) and were more likely to be declared DNAR as compared to patients who arrested initially in ED.

10. ED CA in patients having traumatic injury compared to CA in patients without injury from trauma more frequently had lower survival to discharge (7.5% vs 23.8%), were less likely to have had a precipitating arrhythmia (23.6% vs 32.5%), and were more likely to have experienced hypotension or shock (41.6% vs 29.0%).

What does this mean to your facility?

Patients who suffer a cardiac arrest in the ED are a unique population having better survival to discharge compared to patients arresting in other hospital locations. As ED location was an independent positive predictor of survival, further analysis of process variable such as personnel, training, and frequency of practice may identify opportunities for improvement.