



Improving Cardiac Arrest Survival ~A Video Analysis~

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Disclosures and Conflicts



Disclosures

- **Western Michigan University Homer Stryker MD School of Medicine**
 - Professor and Chief, Division of EMS and Disaster Medicine
- **Kalamazoo County Medical Control Authority**
 - Medical Director
- **Michigan Department of Health and Human Services**
 - State Medical Director, Division of EMS and Systems of Care
- **Yellowstone and Indiana Dunes National Parks**
 - Associate Medical Director
- **Save MI Heart Project**
 - Board Member
- **American Board of Emergency Medicine – EMS Sub-Board**
 - EMS Sub-Board Member

Conflicts

- No Conflicts

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Sudden Cardiac Arrests and EMS

- Sudden Cardiac Arrests make up <1% of EMS responses
- Why spend so much time on out-of-hospital cardiac arrest care?
 - By definition, life threatening
 - Low frequency / High consequence
- Requires all aspects of the system for optimal outcomes
 - “Chain of Survival”
- EMS plays key role in patient outcomes
- Extremely measurable
 - “Survival rates”
- Allows for benchmarking – Outcomes highly variable
 - CARES
 - www.mycares.net



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Cardiac Arrest – Video Analysis

- Incorporation of video and multi-media files in analysis of resuscitations
- Video sources
 - Public venue security cameras
 - Law enforcement body worn cameras
 - Emergency vehicle dash cameras
- Other media to compliment the analysis
 - PSAP/EMD audio recordings
 - AED/monitor biomedical data
 - AED/monitor audio recording data

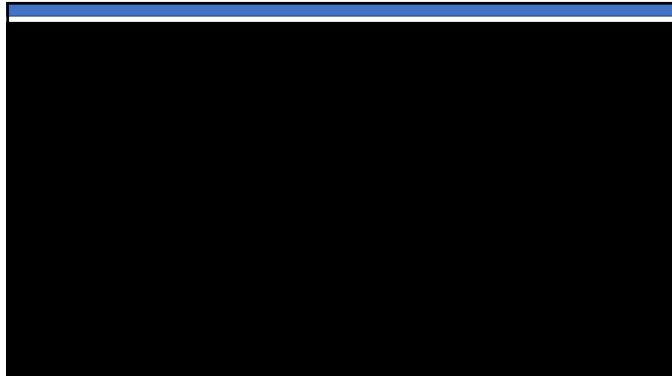
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Cardiac Arrest – Video Analysis

- Location: “Big Box” retail store
- Patient: 74 YO store employee, known CAD, remote CABG
- Setting:
 - Patient restocking checkout lane just prior to store opening
 - Unwitnessed arrest with bystander CPR
- EMS system
 - Single-tier, all ALS with BLS first responders
 - BLS (EMR/EMT) responders use supraglottic airways
 - ALS used supraglottic airways since 2006 in arrests
 - ALS continues to use AED for defibrillation with ALS monitoring of ECG + ETCO2

*Permission obtained for use of videos

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Summary

- Obtaining high survival rates from sudden cardiac arrest is achievable
- Good outcomes don't happen by just being "lucky"
- Requires an effective system of care and teamwork
- Optimize the "basics"
 - "Pit Crew CPR", aggressive defibrillation, supraglottic airways, post-ROSC care
- Train and retrain regularly
- Critically measure performance (CARES participation)
- Video as a quality improvement tool when available
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Reel Emergency Vodcast

- Reel Emergency Episode 14 (Vodcast for deeper dive into arrest with analysis from resuscitation leaders)
 - <https://youtu.be/UYfFa-gclZU?si=ilEQOQE1JofMARSe>

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