Cardiac Arrest
An Emergency Response

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Charles N. Pozner, MD
Medical Director, STRATUS Center for Medical Simulation
Brigham and Women's Hospital
President, American Heart Associate Founders Affiliate
ACLS National Faculty
Assistant Professor of Medicine
Harvard Medical School

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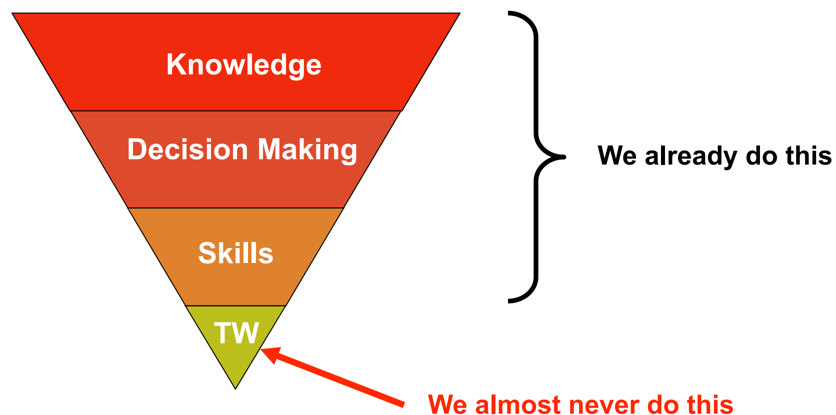
Cardiac Arrest: An Emergency Response

FINANCIAL DISCLOSURE:
Laerdal Medical Corporation, Consultant

Code Blue

- High acuity, low frequency, event
- Inadequate training with significant skill degradation
- Often haphazard assembly of interdisciplinary teams that rarely (if ever) train together
- Limited review of performance

What Stands in the Way of Success?



Knowledge, Critical Decisions, and Skills

- CPR
- Sensible ventilation
- Early Defibrillation
- Differential Diagnosis
  - 5 H's and 5 T's
- Therapeutic hypothermia
- Medications

Not Just CPR…EXCELLENT CPR!

- Hard and fast
- Complete recoil
- Don't hyperventilate
- Minimal stopping

How Do We Do?

67 in-hospital cardiac arrests

– Rate <90/min: 28.1%
– Depth <38mm: 37.4%
– Vent. rate >20/min: 60.9%
– No-flow fraction: 0.24

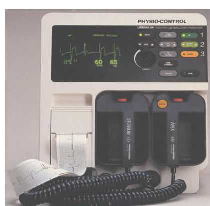
Abella BS et al. JAMA. 2005;293(3), 305-10

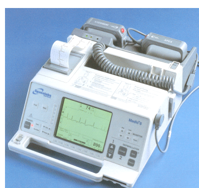
6,789 in-hospital VF/VT

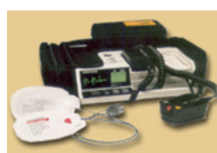
– >3 minutes until defibrillation
– 11% > 7 minutes
– Often awaited "code team"

Chan. NEJM 2002

Standardization







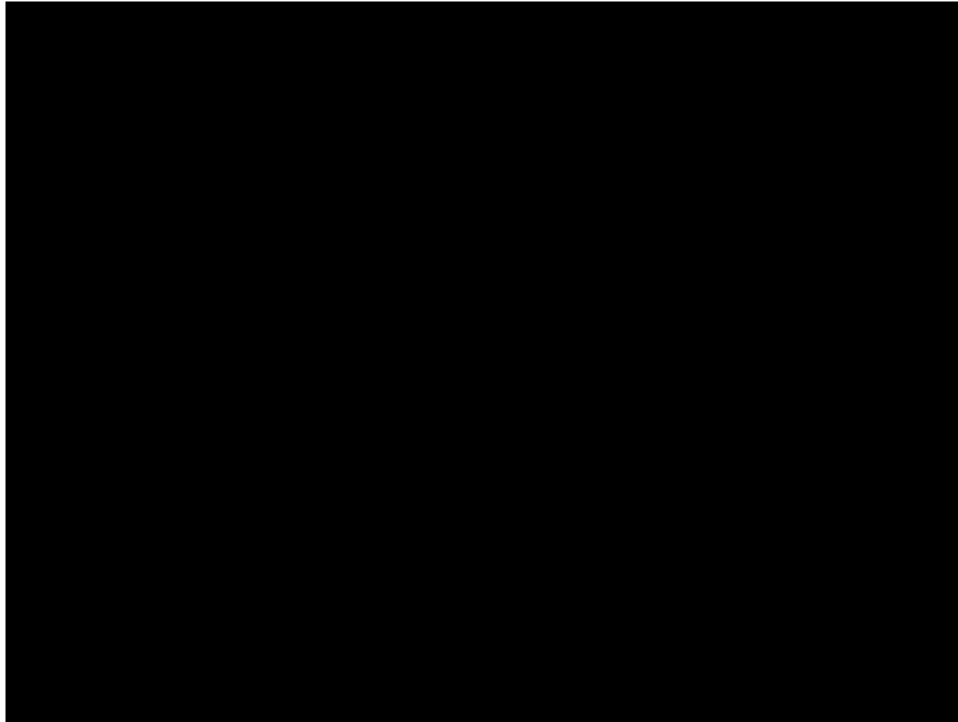
"First Five Minutes"

- Local rescuers
  - The group likely to have the greatest impact
  - The group most often with the least training
  - The group that often has the least practice Rapid identification
- Local team response
  - Rapid Identification and notification (local and hospital-wide)
  - Early defibrillation
  - Early CPR
  - Early mitigation of basis of PEA
  - Facilitate entry of "code team"
  - Effective and efficient pass-off

The last time that you attended a cardiac resuscitation in your institution ....

Did it look and feel like this,

or did it look and feel like this?



Crisis Resource Ma ement

- Bad outcomes are usua
  - Lack of knowledge
  - Lack of commitm
  - Lack of skills
- Five m
  - R
  - Glo
- It's abou rk!

CULTURE CHANGE

Role Clarity

- Every crisis requires a team leader who:
  - Organizes team
  - Articulates goals
  - Avoids performing procedures
  - Is the communications go-between
- Assistants must be empowered to:
  - Reject assigned position if not qualified
  - Immediately advise team leader when they notice something amiss

Communication

- All communications go through Team Leader
- Team Leader shares communications with the team
- Close the Loop!
  - Repeat back what was said when spoken to
  - Never say anything that is not directed to a specific person

Training in Resuscitation

- More than just CPR and ACLS
- More than maintaining “certification”
- Taught in more then one venue
  - Locally
  - Interdisciplinary
  - In situ
  - Ongoing
    - E Mails
    - Spaced education

Summary

- It’s a systems problem
- People need to recognize this as a priority
- We need to change culture
  - We are all responsible
  - Nobody is an expert
  - Anybody on the team can save the patient
- It’s about training, empowerment, and technology

It’s not *your* fault…

“Rather than being the main instigators of an accident, [caregivers] tend to be the inheritors of system defects….. Their part is that of adding the final garnish to a *lethal brew* that has been long in the cooking.”

James Reason, *Human Error,* 1990