Update in 2015

- What do we know?
- Current Quality of CPR is Poor
  - ABC vs.CAB
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  - Frequent and lengthy pauses
  - Hyperventilation
- Quality Improvement Initiatives

Pediatric Cardiac Arrest

Lots of work to do !

Outcomes are improving!
40% Survive to discharge

Vs.

60%
Don’t make it home!

Prevalence and outcomes of pediatric in-hospital cardiopulmonary resuscitation in the United States: An analysis of the Kids' Inpatient Database*

Data from ~ 3M hospitalizations

Jarrod D. Knudson, MD, PhD; Steven R. Neish, MD, MS; Antonio G. Cabrera, MD; Adam W. Lowry, MD; Pirouz Shamszad, MD; David L. S. Morales, MD; Daniel E. Graves, PhD; Eric A. Williams, MD, MS; Joseph W. Rossano, MD

CCM 2012

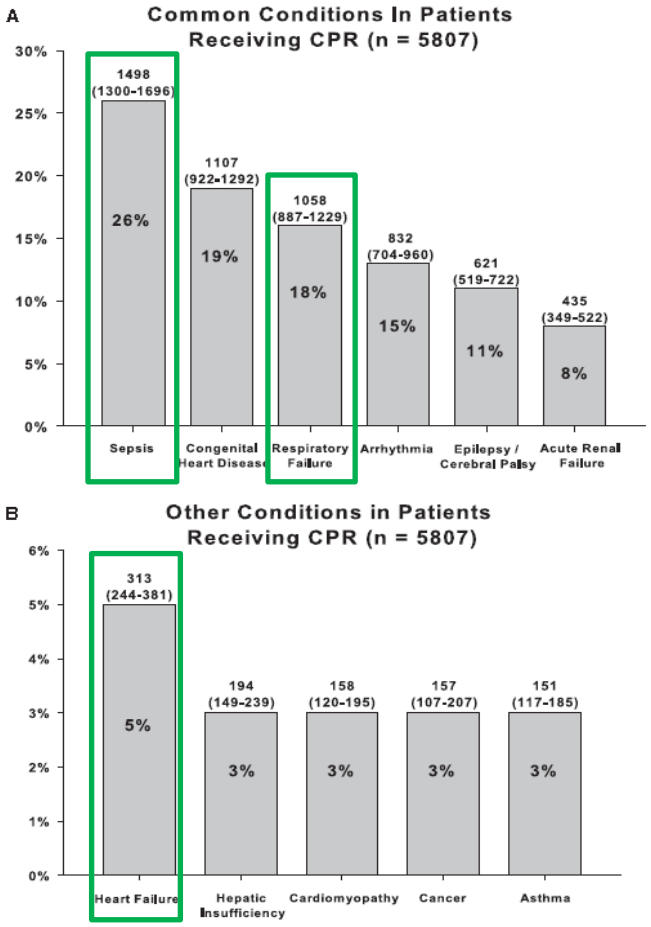

Figure 1. Estimates of prevalence and distribution of morbidities in patients receiving cardiopulmonary resuscitation (*CPR*). *A*, Common comorbidities in patients receiving CPR. *B*, Other less common conditions present in patients receiving CPR. Weighted estimates with 95% confidence intervals appear above *bars*.

Conditions in pediatric CPR patients

Sepsis (26%)

Respiratory Failure (18%)

Heart Failure (5%)

~ 50%

Arrhythmia (15%) ← Vs.


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International Liaison Committee on Resuscitation
ILCOR
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Publications
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Members Only
Welcome
It is a pleasure to welcome you to this new website, which is dedicated to the activities of the International Liaison Committee on Resuscitation (ILCOR). This site will provide a single location at which all relevant outputs from ILCOR can be accessed.
Some documents will be downloadable directly from this site; others will be accessed via a link to alternative sites. In this way, ILCOR scientific statements, consensus on cardiopulmonary resuscitation science statements and treatment recommendations, and news about ILCOR's activities can be obtained efficiently.
Vinay Nadkarni
Jerry Nolan
ILCOR Co-chairs
2010
CONSENSUS
questions 2010
worksheets 2010
stay informed
Timeline
30 January 2010
Dallas C2010 Guidelines Conference
April 2010
ILCOR C2010 sign-off
CoSTR document and guidelines of Councils
October 2010
Paper publication ILCOR CoSTR document
News
ILCOR meeting - Hilton Hotel Orlando, Florida
ILCOR presents a universal AED sign
ILCOR meeting November 2007 Orlando
New guidelines expected in 2010
ILCOR meeting September 2004 Budapest
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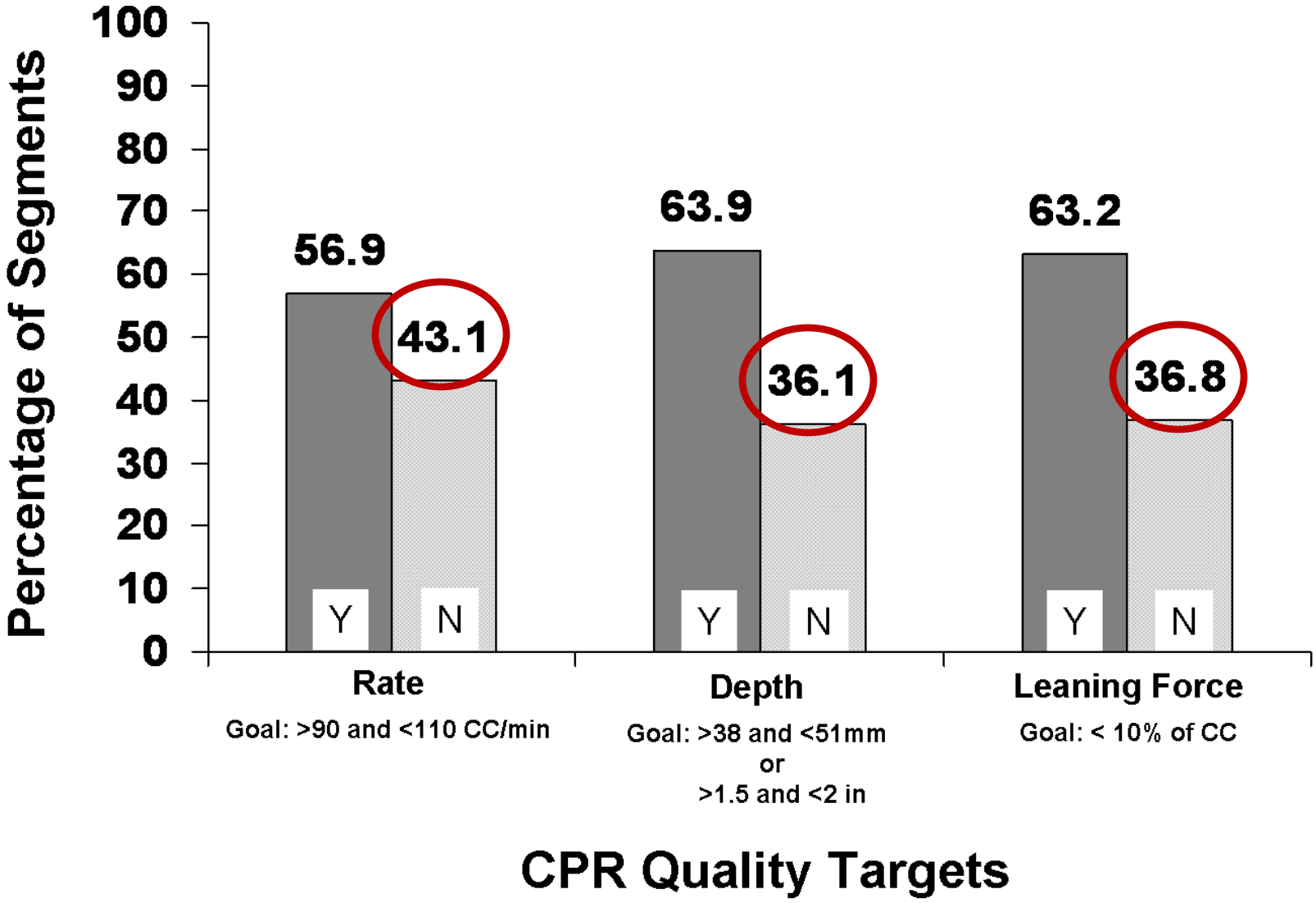
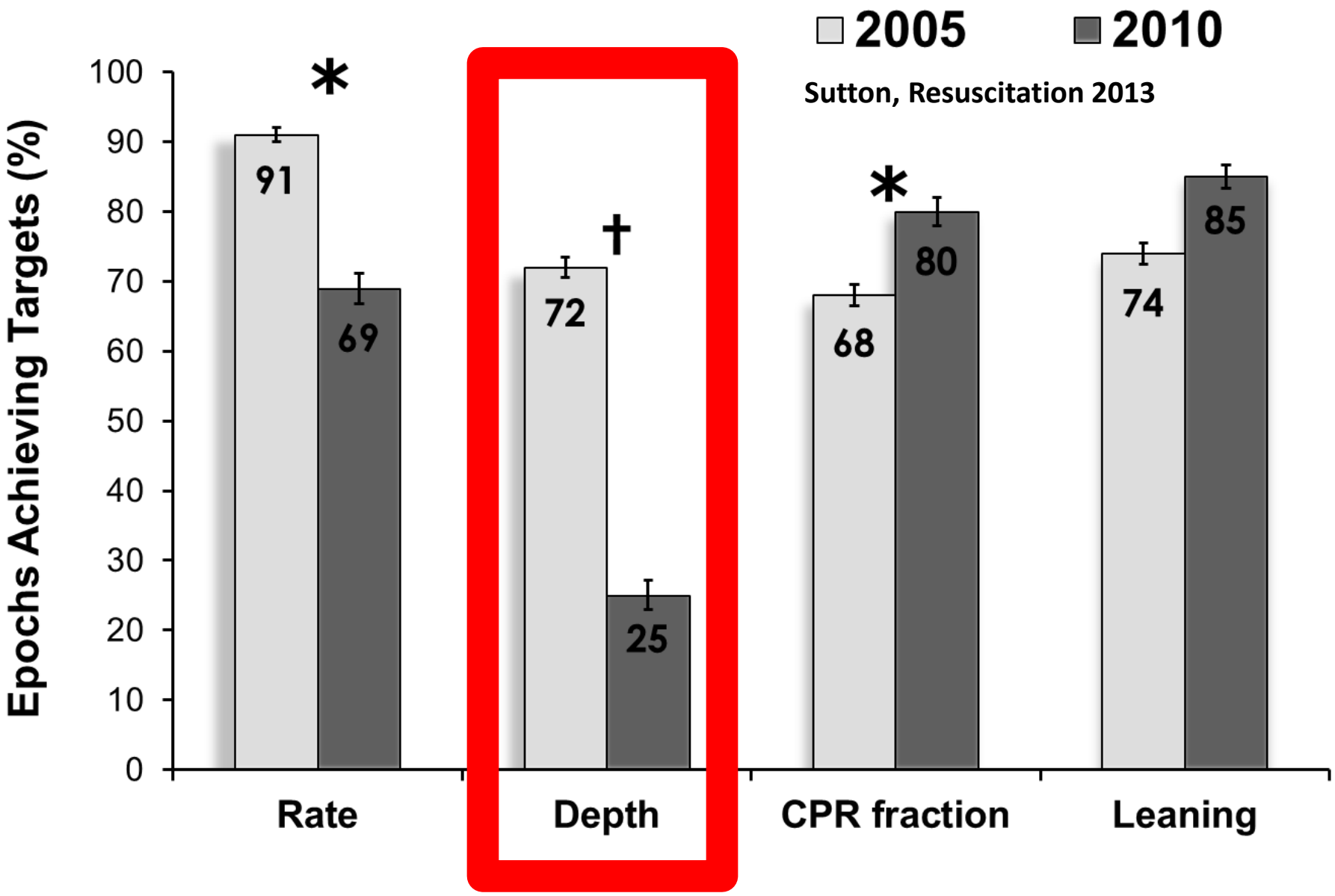
Not as good as we thought…

Sutton, Pediatrics 2009



And we still have work to do…



C – A – B

The Top 10 Everything of 2010

In 50 wide-ranging lists, TIME surveys the highs and lows, the good and the bad, of the past 12 months

TOP 10 MEDICAL BREAKTHROUGHS

5. Taking the Resuscitation Out of CPR

195 of 500
VIEW ALL

By Alice Park | Thursday, Dec. 09, 2010

Haraz N. Ghanbari / AP

For 50 years, ever since cardiopulmonary resuscitation (CPR) was first described in 1960, rescuers have been saving lives the same way, by combining mouth-to-mouth resuscitation with chest compressions to revive unresponsive victims. But after new data showed that chest compressions alone were just as effective as traditional CPR in rescuing victims of cardiac arrest, the American Heart Association (AHA) decided to update the decades-old process. The new rules for CPR put more emphasis on the chest compressions, and in some cases do away with resuscitating breaths altogether.

In recent years, several studies have found that untrained bystanders are more comfortable performing chest compressions, without mouth-to-mouth — even with the help of

Bystander CPR for Pediatric OHCA

30-day Good Neuro Survival

Non-cardiac Cause: 71% of 5178 OHCAs

CC+RB	CC only	No CPR
45/624*	6/380*	53/2719
7.2%	1.6%	1.9%

* OR 5.5, CI 2.5-17.0
CC+RB vs CC

Kitamura, Lancet 2010

Bystander CPR for Pediatric OHCA

30-day Good Neuro Survival

Cardiac Cause: 29% of 5178 OHCAs

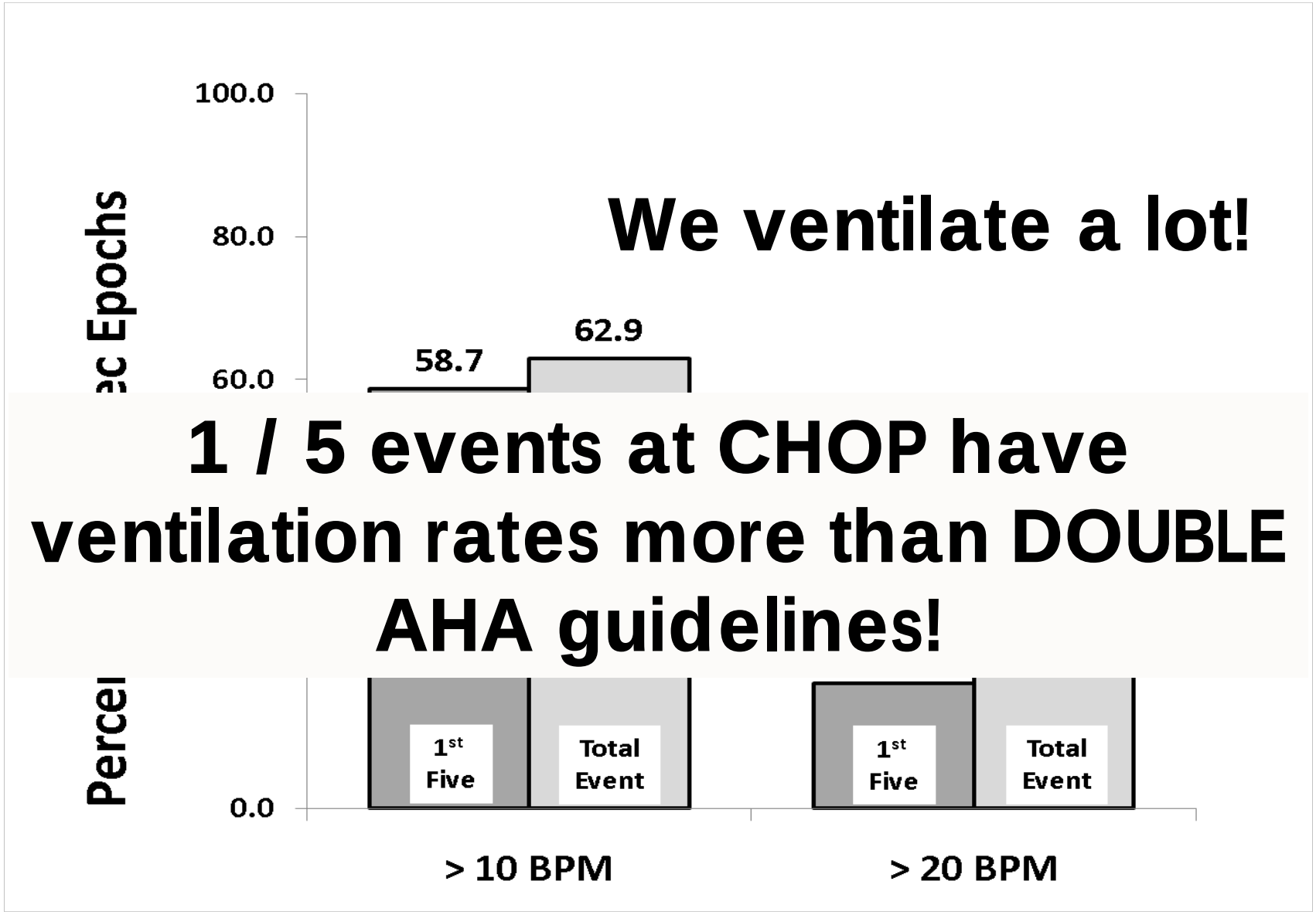
CC+RB	CC only	No CPR
28/282*	14/158*	14/339
9.9%	8.9%	4.1%

* OR 2.2, CI 1.1-4.5

CC+RB & CC vs No CPR

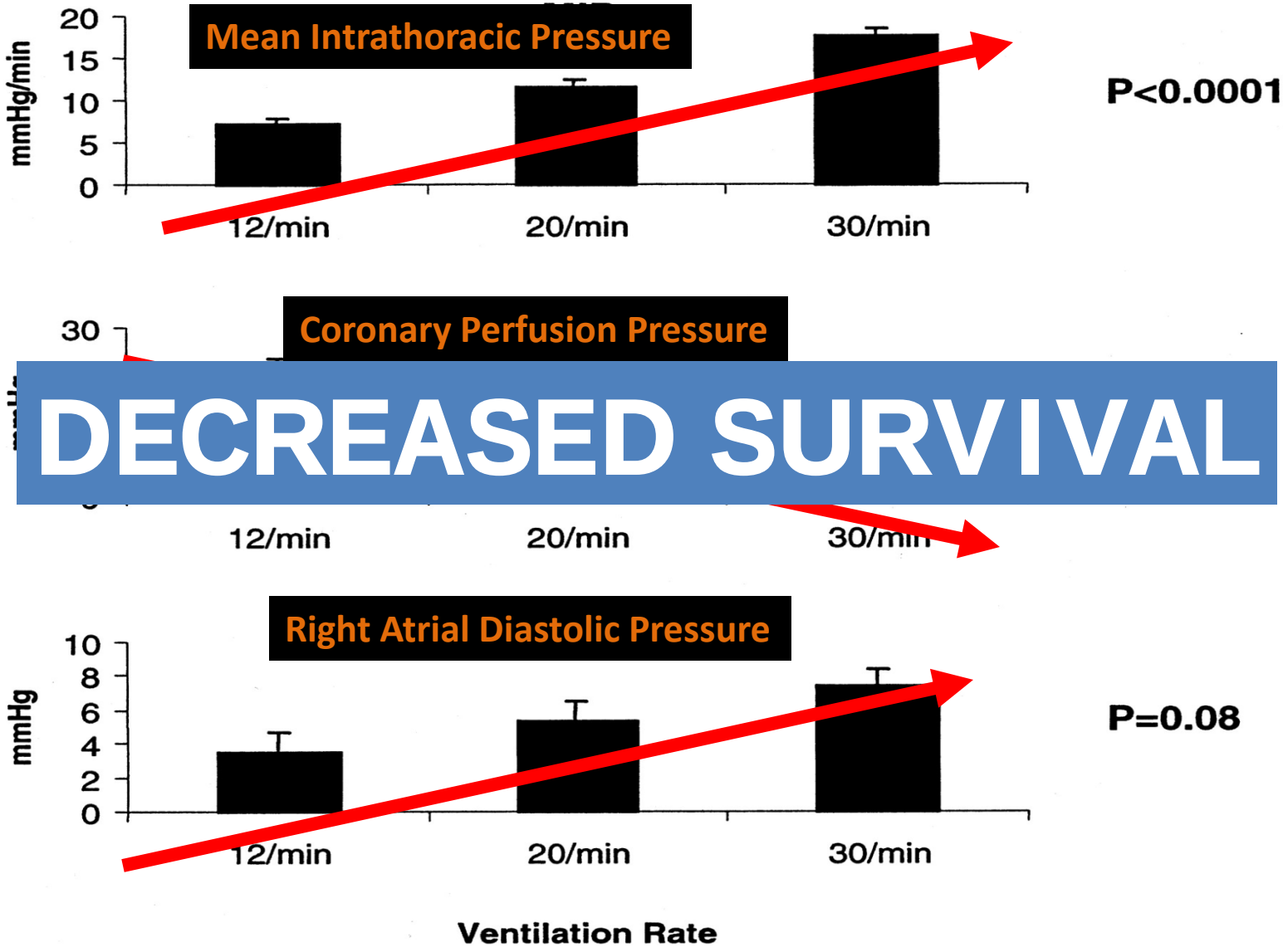
Kitamura, Lancet 2010

Breathing too Fast



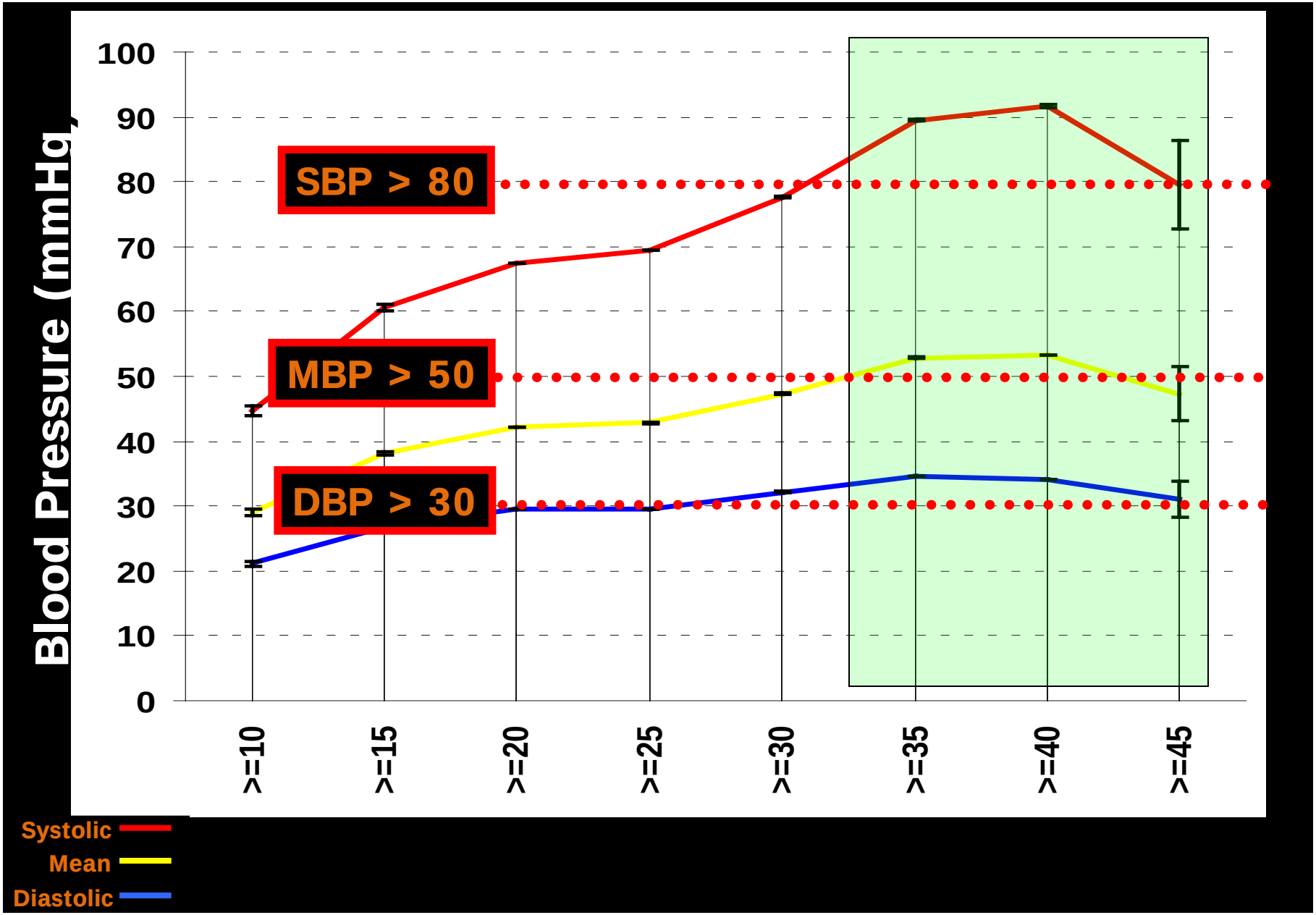
McInnes, Resuscitation 2011

Excessive Ventilation is Lethal



Aufderheide, Circulation 2004

Push Hard = Better Pediatric BPs

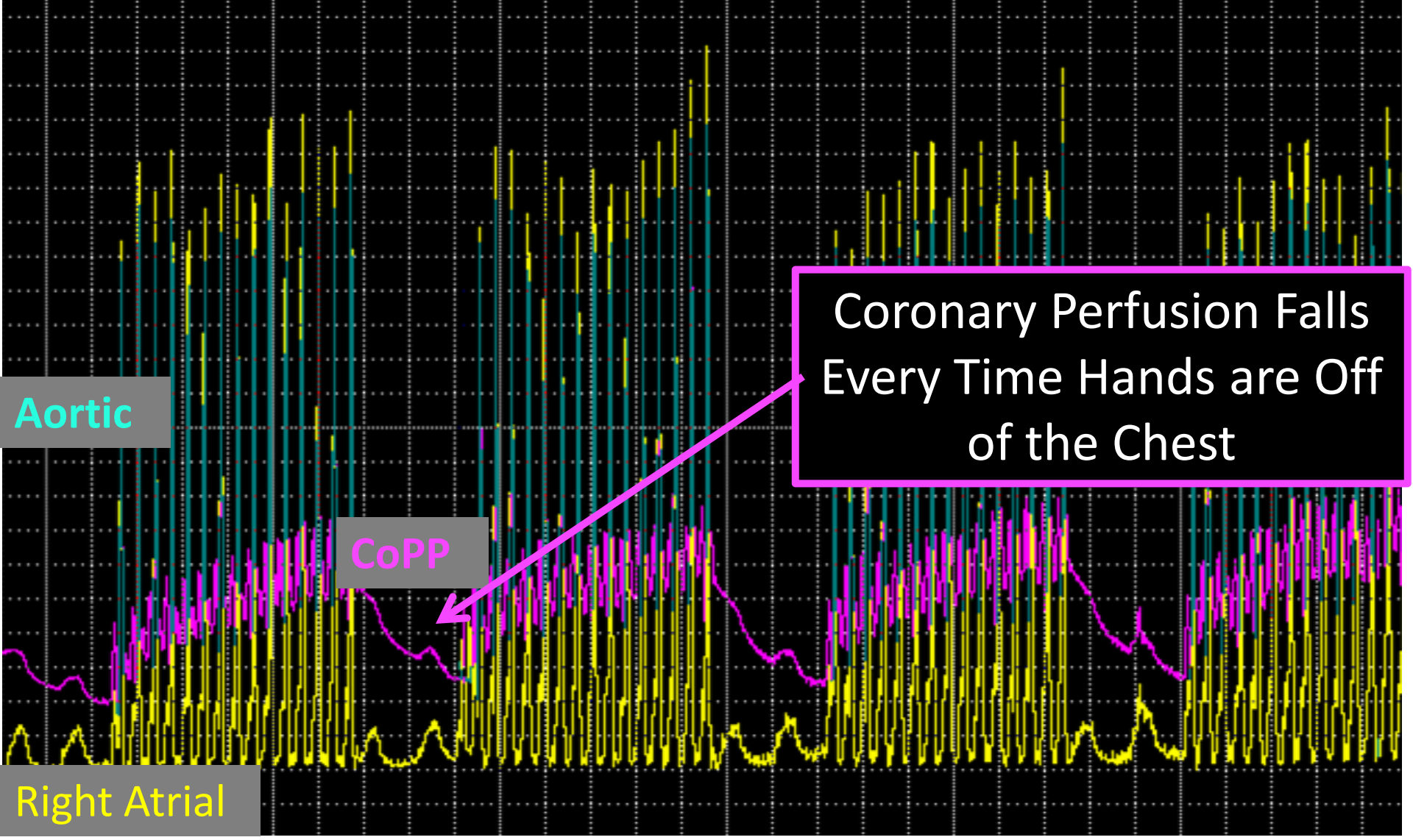


Excellent CPR = Excellent Pediatric BPs

	SBP ≥ 80	DBP ≥ 30
Rate Only ≥ 100 CC/min	1.32 (1.04, 1.66)*	2.15 (1.65, 2.80)†
Depth Only ≥ 38mm	1.04 (0.63, 1.71)	0.97 (0.52, 1.79)
Rate and Depth	2.02 (1.45, 2.82)†	1.48 (1.01, 2.15)‖

Table 4: Relative odds of attaining threshold values of systolic blood pressure (≥ 80 mmHg) and diastolic blood pressure (≥ 30 mmHg) according to CPR quality thresholds. Data presented as odds ratios (CI^{95}); all odds ratios relative to poor CRP quality (rate < 100 CC/min and depth < 38 mm). SBP indicates systolic blood pressure; DBP, diastolic blood pressure. *p=0.02; †p<0.001; ‖p=0.042.

Sutton, Resuscitation 2012



Coronary Perfusion Pressure during 15:2 CPR

(Ao diastolic - RA diastolic) Berg, Circulation 2001

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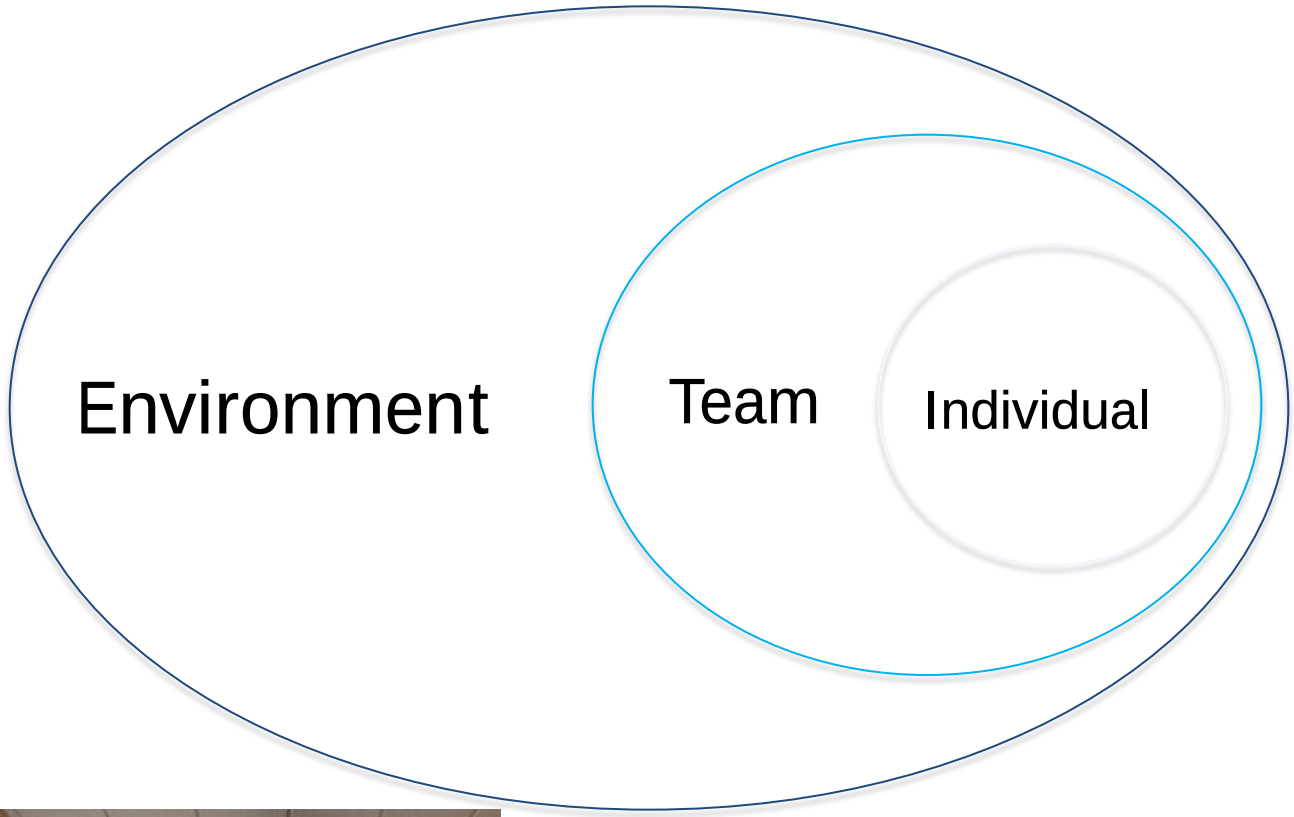
Focused Efforts to Improve Skills



Low Intensity
High Frequency

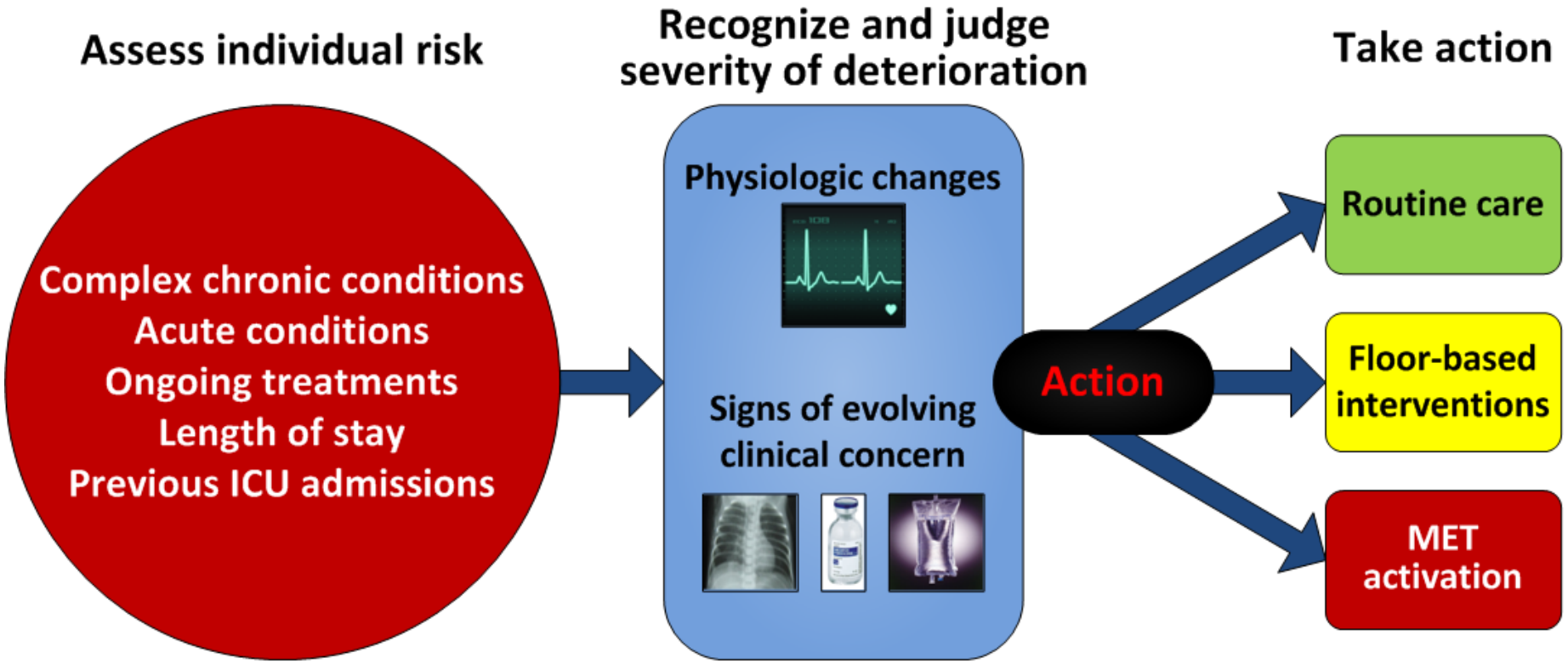
Performance Debriefing

Performance Feedback

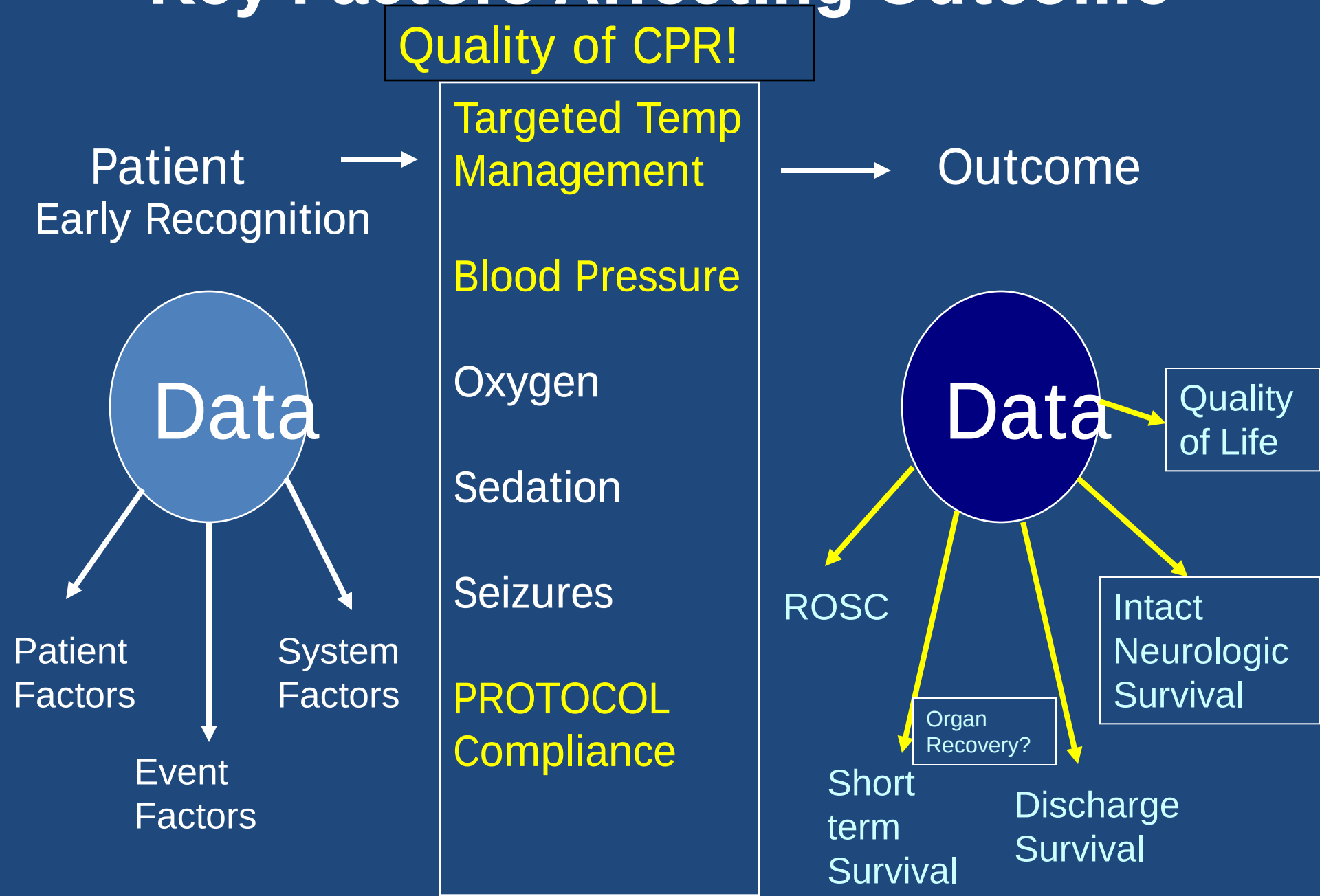
Early Recognition and Response

Rapid Response Teams (RRT)

Medical Emergency Teams (MET)



Key Factors Affecting Outcome



Challenges Today

Knowledge Discovery → Knowledge Processing → Knowledge Transfer

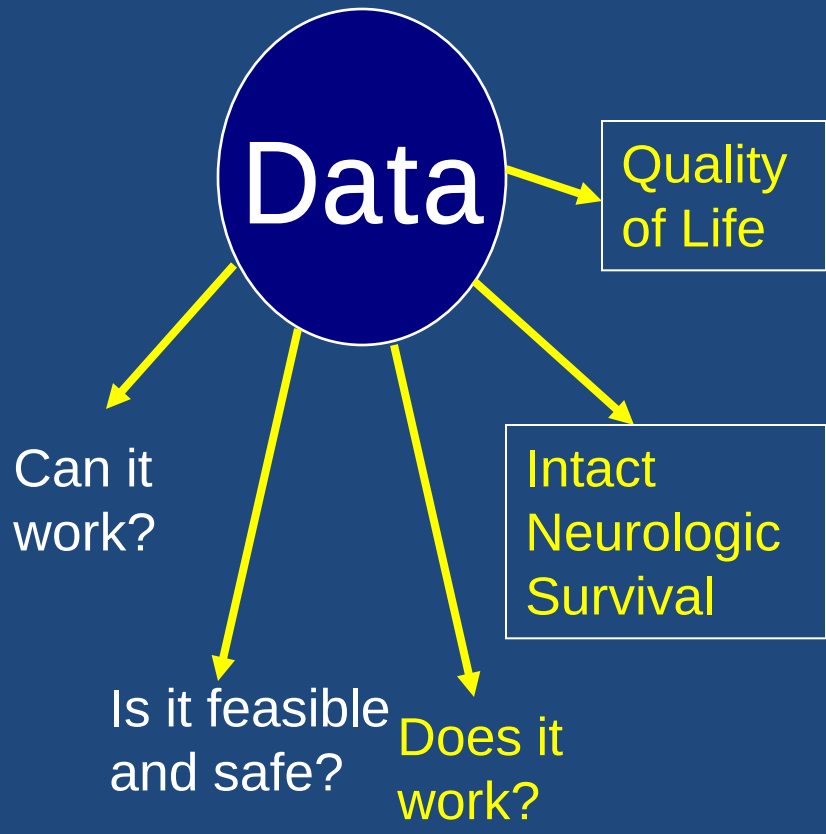
Teach

Learn

Remember

Act

Act well



Debriefings

Monthly or Bi-Weekly

- Quality of care
- Latent and obvious errors
- Examples of excellence
- Clinical issues
- System issues
- Team performance

Post-analysis Q-CPR Report Card

Case ID:	Sample_MRx_v900	**Patient ID:**	
Case date:	10/9/2007	**First name:**	
Device:	HeartStart MRx: US00206643	**Last name:**	

Episode Summary:	
Episode start time	10/9/2007 7:00:59 PM
Total length of episode	00:02:59.1
Total number of shocks	1
Time device on	10/9/2007 7:00:59 PM
Time device off	10/9/2007 7:07:17 PM
Total time excluded from statistical calculations	00:00:00.0
Compression Data:	
Total number of compressions	169
Total compressions with adequate depth	165
Total compressions with insufficient depth	4
Total compressions with incomplete release	0
Average compression rate [/min] [90-120]	114
Average compression depth [mm] [38-51]	44
Adequate depth [%]	97.6
Average compression counts [/min]	57
Ventilation Data:	
Total number of ventilations	10
Total time before intubation	00:02:59.1