Chest Compression Only CPR

Save your Breath…
Save a Life

Sudden Cardiac Arrest — Any Age, Anybody

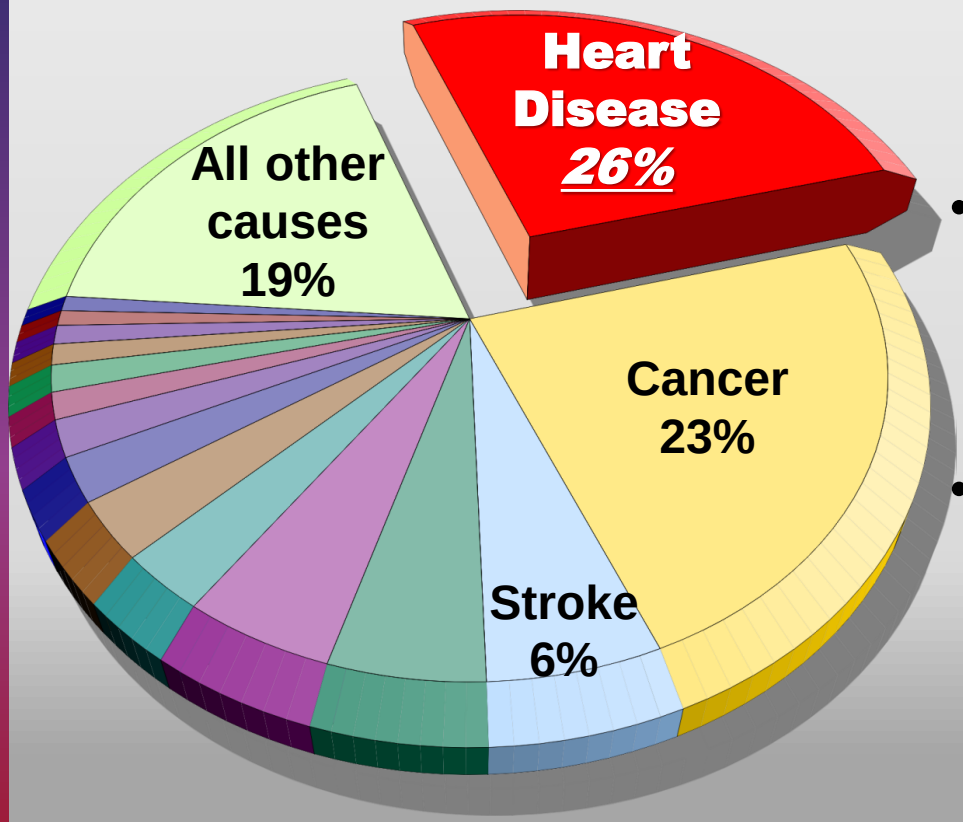
Chris Miller, at age 15 – Saved by Erika Yee, a band mate who learned compression-only CPR in Girl Scout Camp.

Russell Vossbrink, at age 36 - A crime lab investigator saved by a co-worker.

Rafael "Ralphie" Rendon, at age 14 - Collapsed during high school football practice. A volunteer coach responded.

Brian Duffield, at age 41 - Collapsed after a swimming workout. A paramedic was nearby.

Causes of Death (U.S.)



Sudden Cardiac Arrest

- Heart disease kills more people each year than cancer
  - 1 in every 4 deaths
- Every year 230,000 - 325,000 people have a cardiac arrest outside of a hospital.
  - Only 7.6% will survive

Lloyd-Jones D, et al. American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics--2009 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Circulation. 2009 Jan 27;119(3):e21-181.

Cardiac Arrest:
Fact vs. Fiction

	Stereotype	Reality
Gender	Male	Male and Female
Age	Old	Any Age
Risk Factors	Overweight Smoker High cholesterol	No Known Risk Factors
Medical History	Heart Attack	Often No Cardiac History
Presenting Symptoms	Chest Pain Dizziness	Often No Symptoms

Heart Attack vs Cardiac Arrest

Heart Attack:

- Blockage in coronary artery
- Person usually ***conscious***
- Upper body discomfort or pain

Cardiac Arrest:

- Heart stops
- Person is ***unconscious***
- Often no previous symptoms
- Person may be gasping or not be breathing at all

OFTEN A CARDIAC ARREST OCCURS DUE TO A HEART ATTACK.

Primary vs Secondary Cardiac Arrest

Primary CA

- Heart stops pumping
- Blood in arteries full of oxygen
- Often unexpected witnessed collapse

Secondary CA

- Heart stops pumping due to lack of oxygen
- Drowning, Drug Overdose or Choking

Out-of-Hospital Cardiac Arrest

- Approximately 70-80% of all adult cardiac arrest are a primary cardiac arrest.

Chest Compression Only CPR

Ann Emerg Med. 1997 Jul;30(1):69-75.

What *is* Chest Compression Only CPR?

- A method of resuscitation developed through extensive research at The University of Arizona Sarver Heart Center for primary cardiac arrest
- In Arizona, we have been doing this for approximately 10 years
- Continuous forceful chest compressions to circulate the person's blood to their brain and heart
- Rescue breathing isn't necessary.

Why isn't Rescue Breathing Necessary?

During Primary Cardiac Arrest:

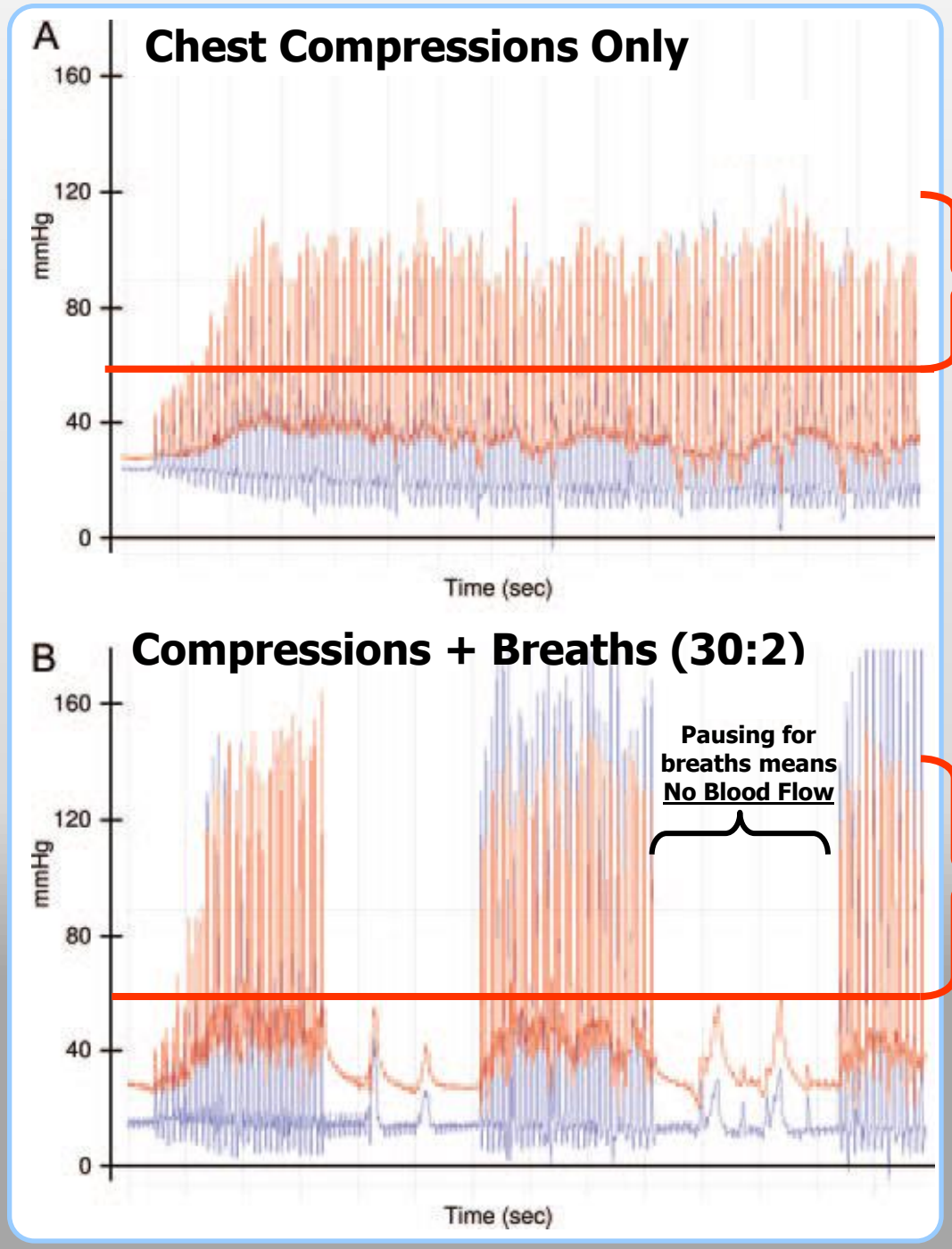
–Lungs are full of air

–Blood is full of oxygen

–Circulating the oxygenated blood is the key

Why Might "Rescue Breathing" be Harmful?

- Any interruption of chest compressions stops blood flow to the brain
- Increased pressure in the chest decreases blood return to the heart



Blood Flowing To The Brain

Blood Flowing To The Brain

Ewy GA, et al. Circulation. 2007;116(22):2525-30.

What Stops People from Doing CPR?

Fear / Concern	Solution
Mouth-to-Mouth	Chest Compressions Only
Harming the Person	Better than dead
Legal Consequences	Good Samaritan Law
Won't Perform Properly	Easier to Do
Physically Unable	Do Your Best / Call For Help

Coons SJ, et al. *Resuscitation* 80;334-340:2009

This study was designed and funded by the Sarver Heart Center
The University of Arizona College of Medicine and SHARE

When to use Chest Compression Only CPR?

Chest Compression Only CPR

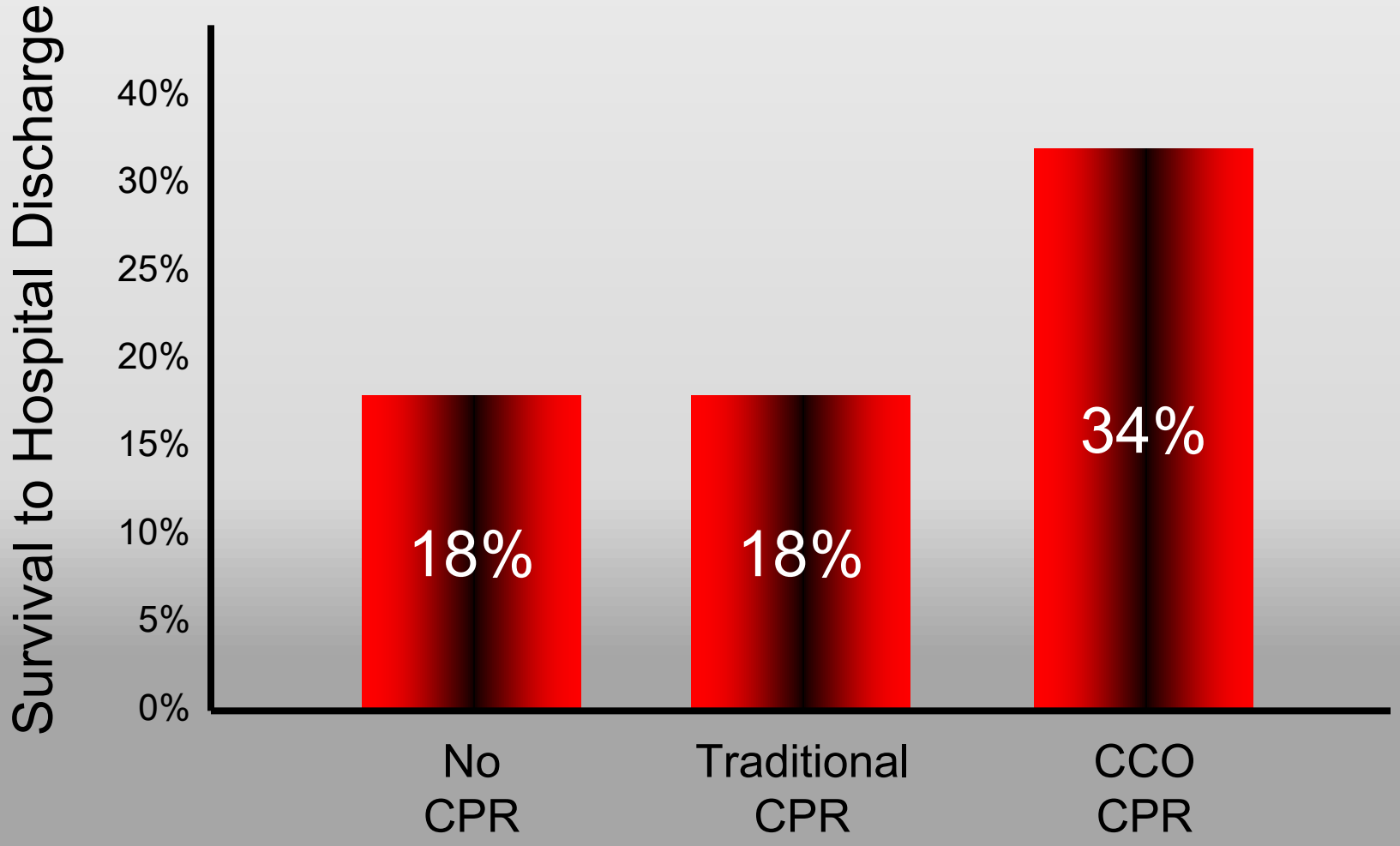
- Someone who unexpectedly collapses, and is unresponsive.
- **Vast Majority**

Traditional CPR (30:2)

- Obvious Breathing Problems:
  - Drowning
  - Choking
  - Drug overdoses
- Children less than 8

WHEN IN DOUBT, DO COMPRESSIONS!!

Bystander CPR in Arizona (2005 to 2010)
Witnessed Primary Cardiac Arrest



Rates are for ventricular fibrillation; from Bobrow, et al. JAMA October 2010

What to do:

3 Cs–

Check

Shake & Shout

Call 911

Send Someone for an A.E.D.

(if available)

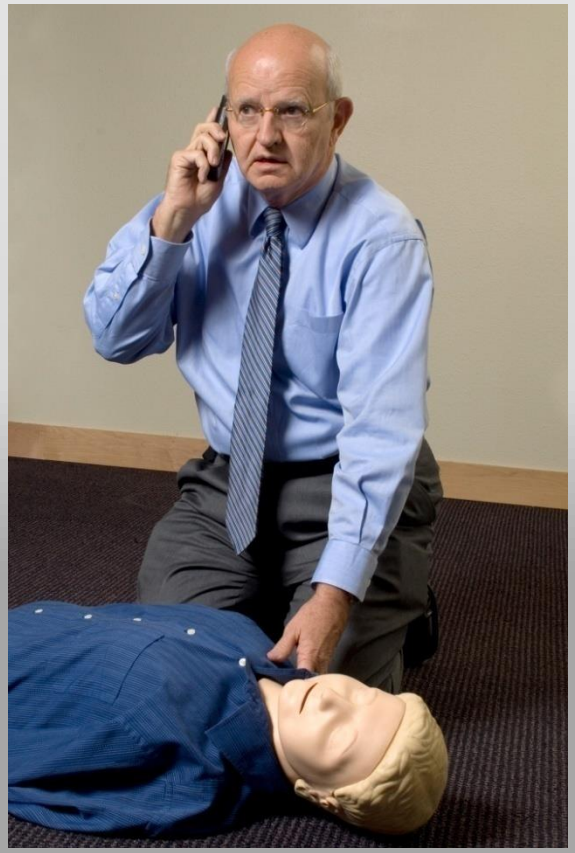
Compress Chest at

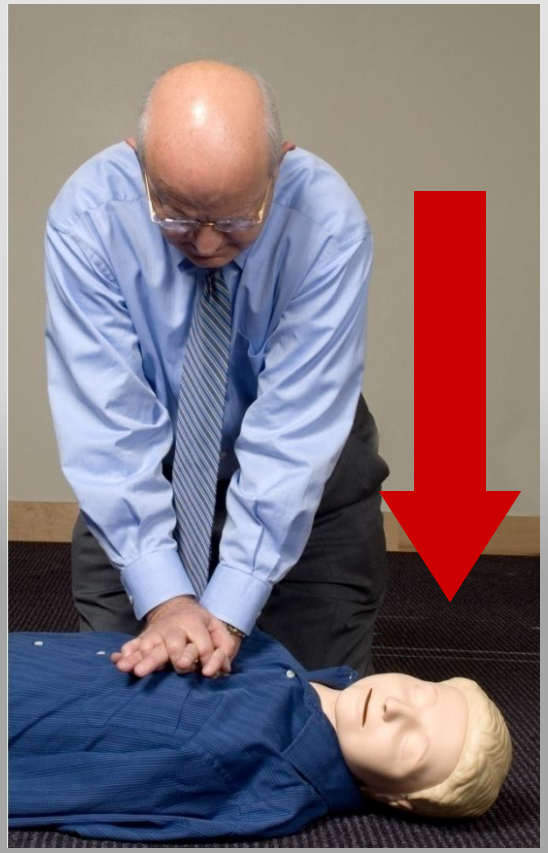
100 Per Minute

How to Do Chest Compression Only CPR

With the victim on the floor:

1. Kneel beside them
2. Place the heel of one hand on top of the other
3. Lock your elbows
4. Aim for the middle of the chest (on the sternum at the armpit line)
5. Push hard and fast (try for 100/min.)
6. Take turns with another person when tired.





Chest Compressions: Rate and Depth

At least

100

Compressions per Minute

- Allows the heart to refill
- Staying Alive (Beegees)
  or
  I Gotta Feeling
  (Black Eyed Peas)

At least

2 inches

in depth

- After each compression, take all weight off the chest

Are They Breathing?

- Gasping is a sign of cardiac arrest
- Majority of people with cardiac arrest gasp
- Can be a sign of minimal, but adequate blood flow to the brain.
- **DO NOT** stop chest compressions if they gasp

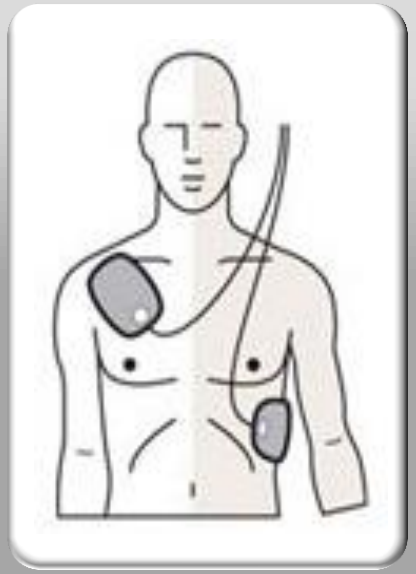
Automatic External Defibrillators (AEDs)

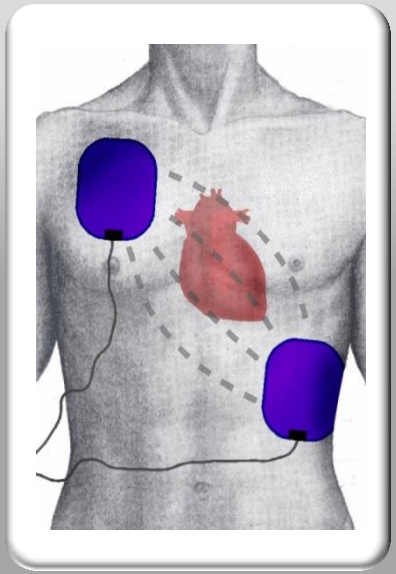
AEDs

They may look different, but they all function the **Same**!

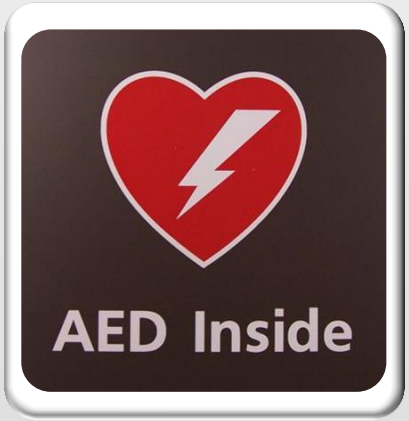
Open and Follow Instructions

- Turn AED ON
- Apply Pads to Bare Chest
- Plug in Pads (*if necessary*)
- Analyze Patient (*CLEAR*!)
- Push Shock to defibrillate, if directed (*CLEAR*!)
- Immediately resume CPR





The Universal Symbol



- Safe
- Easy
- Voice Prompted

For more info on purchasing or maintaining AEDs, talk to your event leader!

Never forget!

REACT CCO newsletter

http://tinyletter.com/UAmedREACT

1 email every 3 months, unsubscribe any time.

What to do:

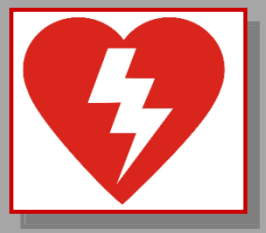
3 Cs–

Check

Shake & Shout

Call 911 &
Send Someone for an A.E.D.

Compress Chest at
100 Per Minute



Use an A.E.D. When it Arrives

Thank You

Save your Breath…
Save a Life

THE UNIVERSITY OF ARIZONA®

Sarver Heart Center

REACT
Resuscitation Education and CPR Training Group

University of Arizona College of Medicine Students
Dedicated to Teaching People Lifesaving Skills

How to Do Chest Compression Only CPR

With the victim on the floor:

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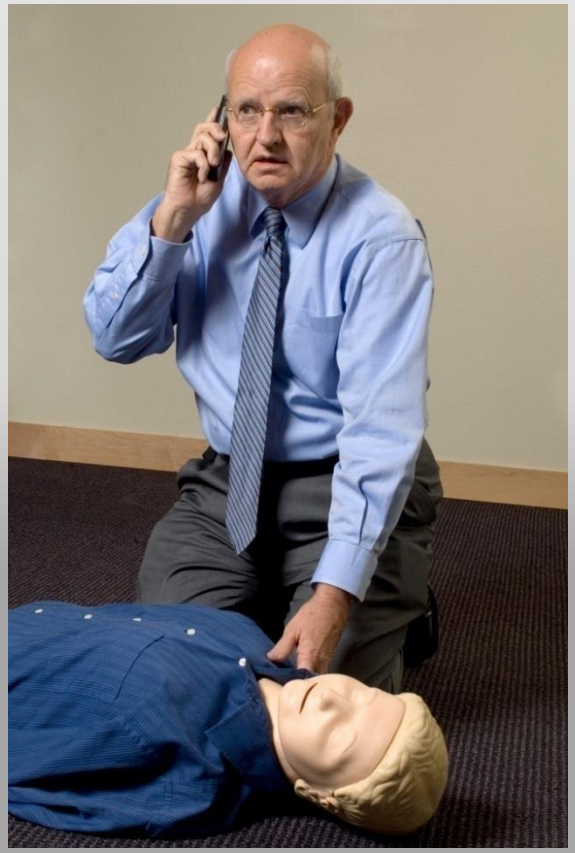
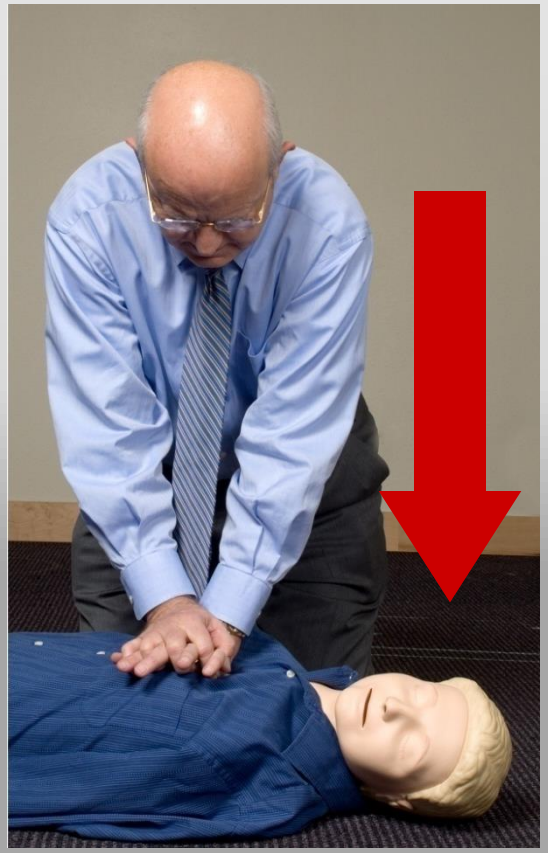
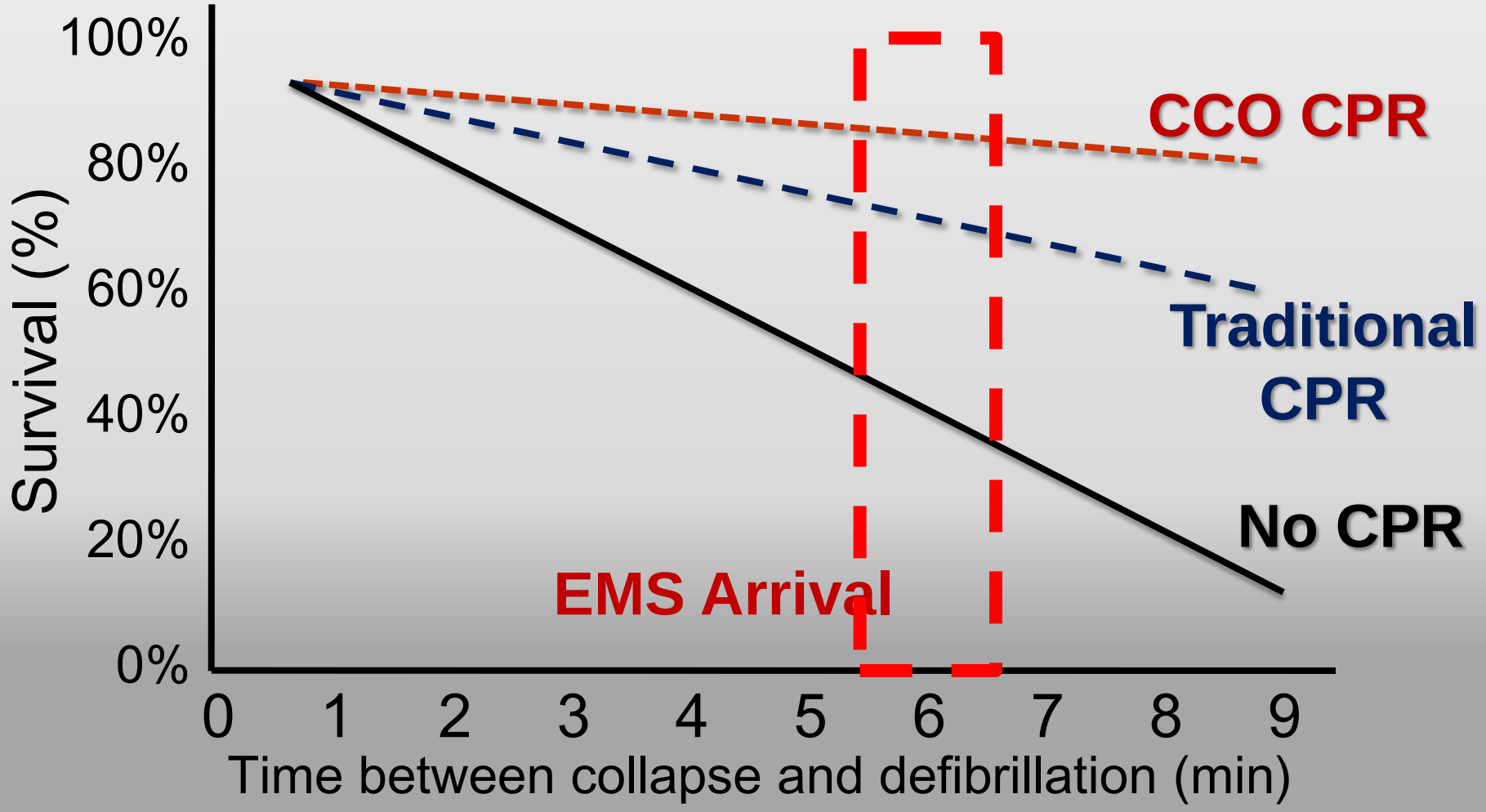




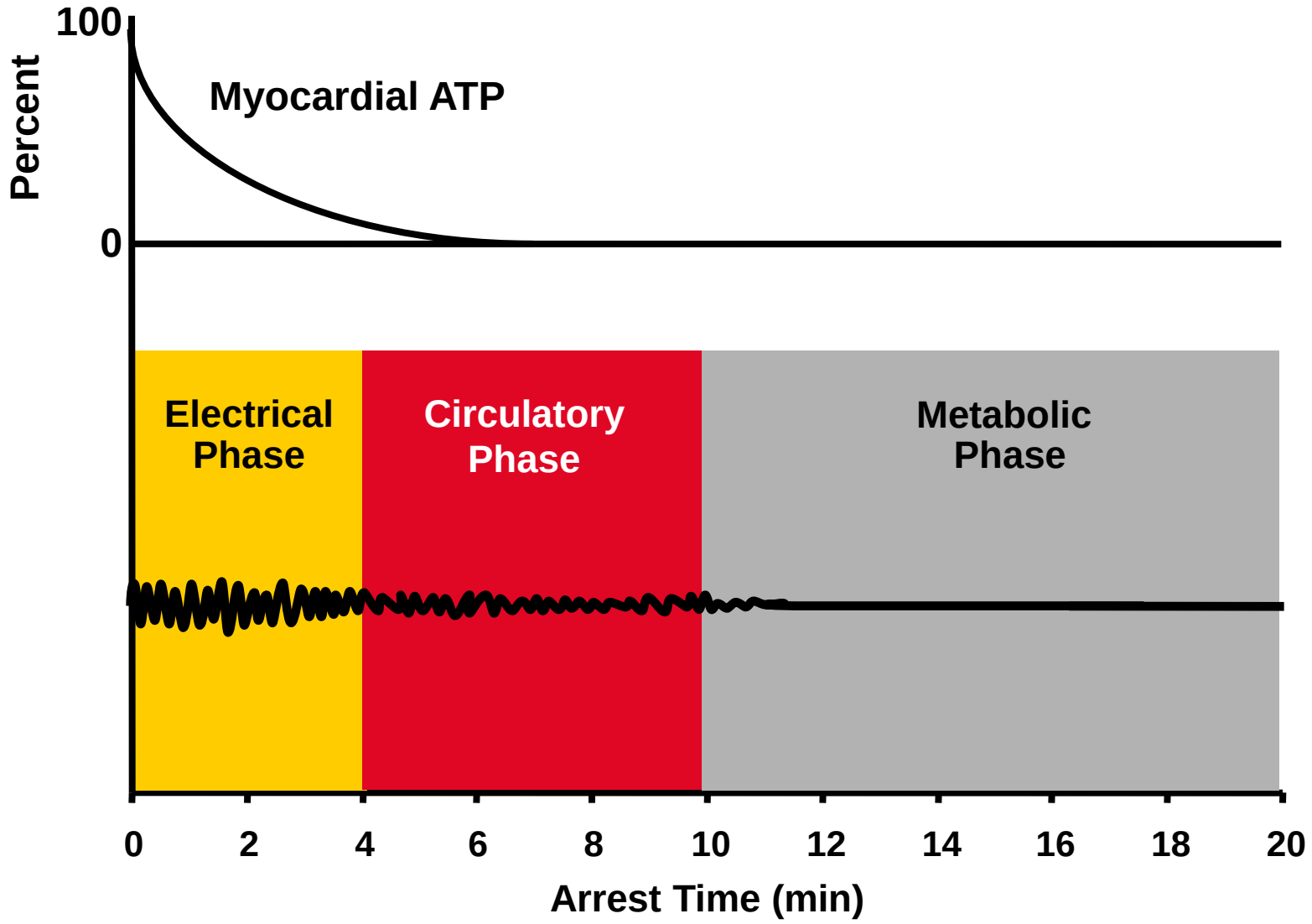
Appendix

Bystander CCO CPR Improves Chance of Survival from Cardiac Arrest

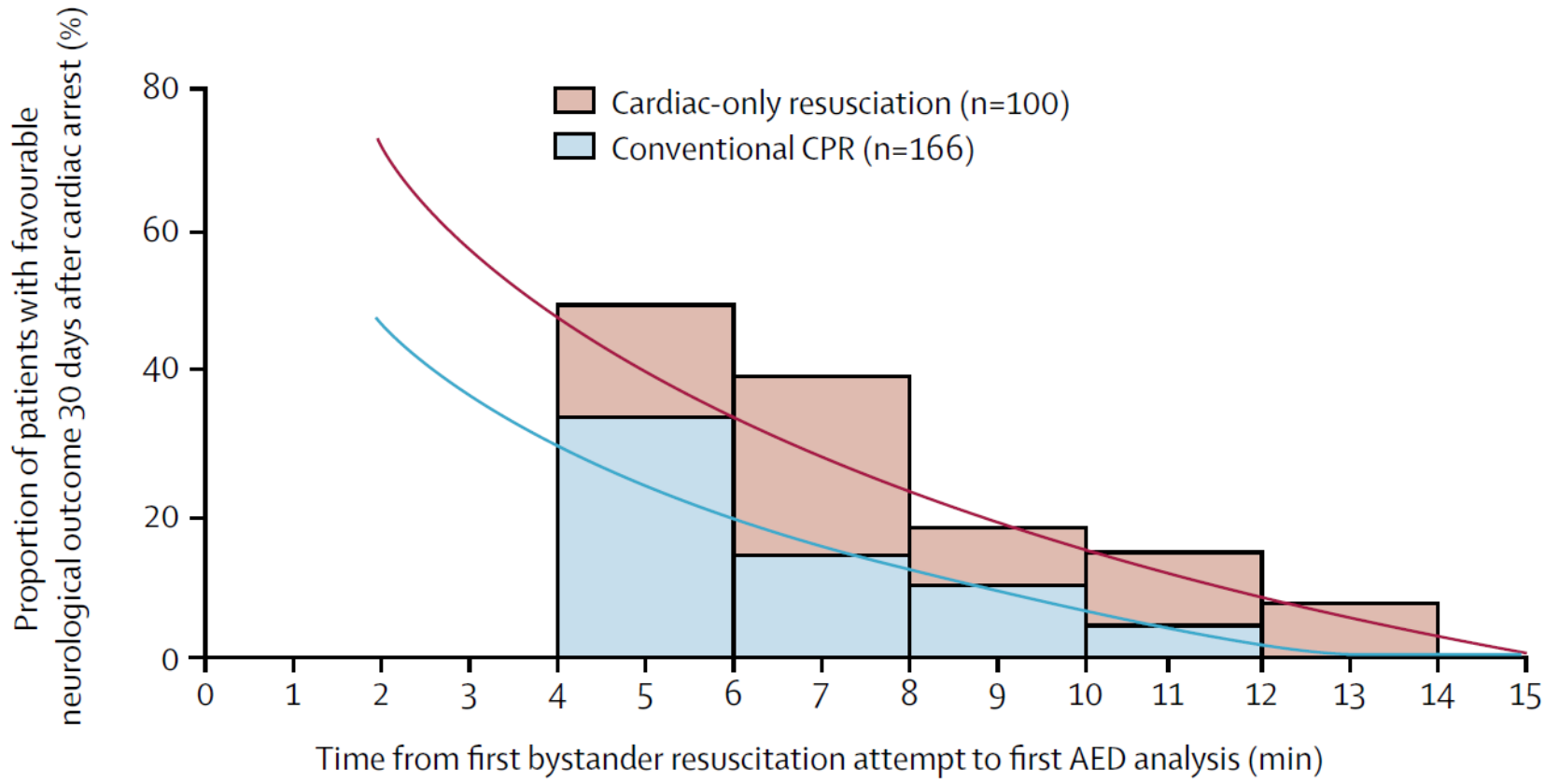


Nagao, K Current Opinions in Critical Care 2009
EMS Arrival Time based on TFD 90% Code 3 Response in FY2008. Standards of Response Coverage 2008.

Three-Phase Model of Resuscitation

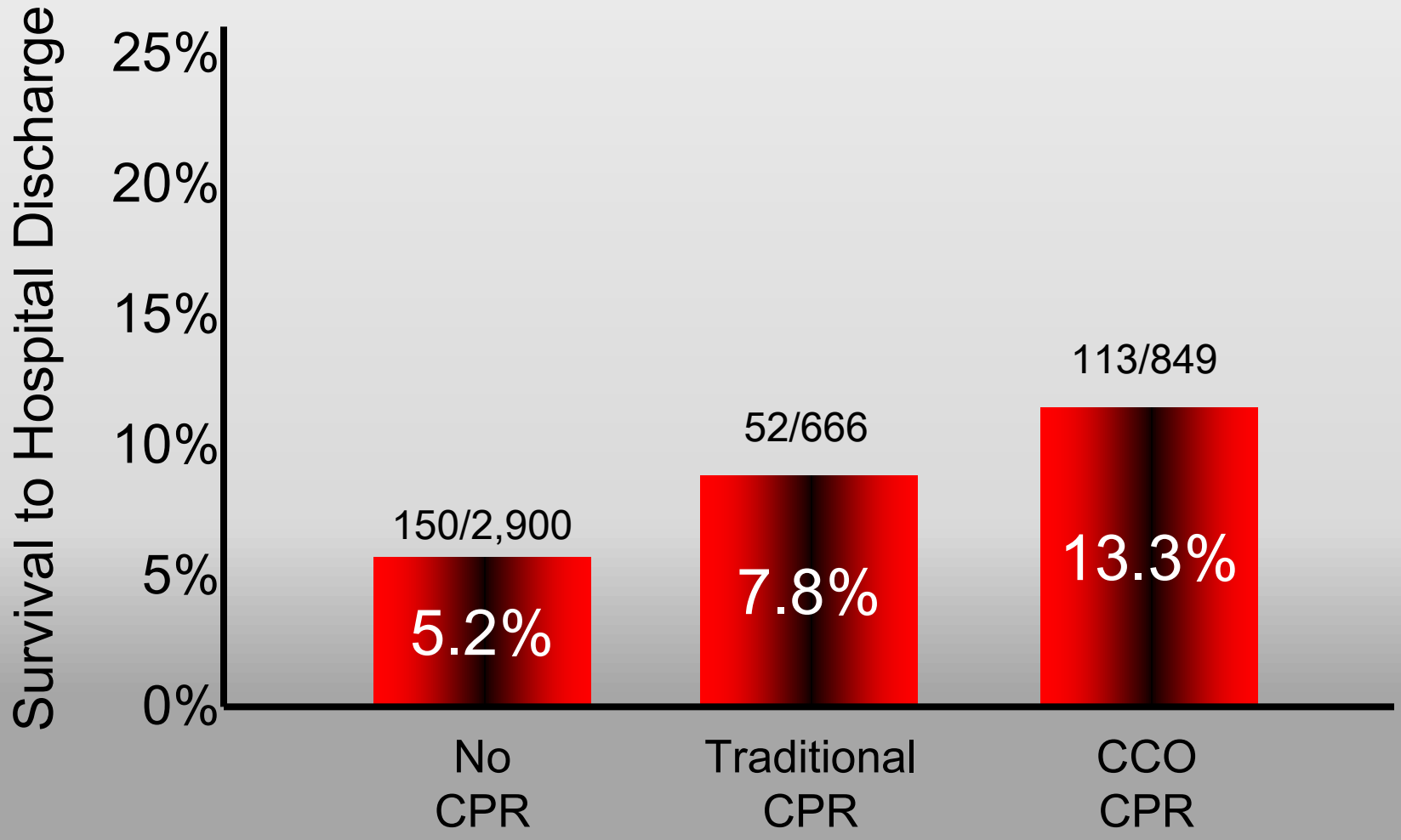


Weisfeldt ML, Becker LB. *JAMA* 2002: 288:3035-8



SOS-Kanto study group. Cardiopulmonary resuscitation by bystanders with chest compression only (SOS-KANTO): an observational study. Lancet. 2007;369:920-6.

Bystander CPR in Arizona (2005 to 2010)
All out-of-hospital cardiac arrests



Rates are for all cardiac arrests; from Bobrow, et al. JAMA October 2010

- FAST for Stroke if people ask about stroke
- Face –Does one side droop? Smile?
- Arms – Raise arms? Is one weak or numb?
- Speech – Slurred? Repeat a simple sentence?
- Time – Have symptoms? Call 911! Get to hospital immediately!