EMD CPR

“The First First Responder”

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“The First, First Responder”

• Objectives

  – 1. Why does EMD matter?
  – 2. Review Role of EMD as Key Part
  – 3. Agonal Respirations
  – 4. Review Barriers to Bystander CPR
Why does EMD matter in CPR?

• How long can brain cells survive following cardiac arrest?

• How long before First Responders arrive?
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• Time from collapse to CPR critical
• PAI CPR decreases this time interval
• Goal for CPR initiation is?
  – 1 minute
• US average response time 4 – 6 minutes
• Average response time for ALS in US?
  – 8 – 12 minutes
Emergency Medical Dispatch / EMD

**EMS NEEDS THE DISPATCHER**
Button Pushing

FOR DUMMIES

Learn to:
- Mispronounce street names
- Make the man who was shot 17 times a G8 Sickness
- Send the unit from the other end of the City clear across town, just because you can

By 3JHCFA535 & 11BCFARS54
TIME IS CRITICAL

Survival decreases by 10% for every minute treatment is delayed.
Adult Chain of Survival

1. Immediate recognition of cardiac arrest and activation of the emergency response system
2. Early CPR with an emphasis on chest compressions
3. Rapid defibrillation
4. Effective advanced life support
5. Integrated post–cardiac arrest care
How many links with EMD?

1. Immediate recognition of cardiac arrest and activation of the emergency response system
2. Early CPR with an emphasis on chest compressions
3. Rapid defibrillation
Frequently Asked Questions

• Can I harm the patient?
• Should dispatcher's be trained in CPR?
• Caller doesn’t want to perform CPR?
• Caller knows CPR and is doing it?
• Dispatcher feels bad if person dies?
• Cannot get patient into position for CPR?
• Most die, why all the work?
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• What are the two interventions which result in best chance of survival?
  – 1. High-Quality CPR
  – 2. Early Defibrillation

• Why is EMD so important in cardiac arrest?
Amsterdam dispatch

- 506 cardiac arrest emergency calls
- Unrecognized, dispatch 0.9 min later, on scene 1.4 minute later
- Main reason in not recognizing cardiac arrest - not asking if the patient was breathing (42 of 82)


Resuscitation Science

Importance of the First Link
Description and Recognition of an Out-of-Hospital Cardiac Arrest in an Emergency Call

Jocelyn Berdowski, MS, MSE; Frerik Beekhuis, RN; Aeilko H. Zwijderman, PhD;
Jan G.P. Tijssen, PhD; Rudolph W. Koster, MD, PhD

Log-Rank P=0.04

Cumulative survival

Time interval cardiac arrest - death (days)

Cardiac arrest recognized
Cardiac arrest not recognized
Odds ratio of survival by CPR status and BLS response time
Witnessed cardiac arrest, King County 1983 – 2000, n = 7265

Dispatcher instructed CPR

Bystander CPR

No CPR reference

Odds ratio of survival

BLS response time

Overall (n=3660)

< 3 min

4 min

> 5 min

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Chest Compression-Only CPR by Lay Rescuers and Survival From Out-of-Hospital Cardiac Arrest

Bobrow et al.

JAMA 2010;304:1447-1454
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Common Delays in Delivering CPR

• Research showed these common causes of delay to CPR:
  – Unnecessary questions asked
  – Bystander not near patient
  – Omission of “breathing normally”
  – Deviation from protocols
Unnecessary questions cause delays

- How old is the patient?
- Does the patient have a heart history?
- Duplication of questions.
- What is the patient experiencing?
If patient is not conscious and not breathing - normally do we really need to know medical history?

All we need to know...

...the patient is dead.

We need to offer CPR without delay and inform the caller that we will help them.
"The Agony of Agonal Respirations"
Agonal Breathing Facts

• Agonal breathing present 40% of arrests
• Commonly mistaken for signs of life
• Very difficult to recognize over phone
• Prevents bystanders from CPR
• Caller may report as breathing to EMD
  – Delay in recognition of cardiac arrest
  – Prevent pre-arrival instructions for CPR
Agonal Breathing Facts

• Agonal breaths is the last respiratory pattern seen before apnea
• Duration may be 1 or 2 breaths
• Duration may be minutes to hours in some cases
Agonal Respirations

• Described by callers in a variety of ways:
  – barely breathing
  – heavy, labored breathing
  – gasping
  – snoring, snorting
  – gurgling
  – groaning, moaning
  – breathing every once in awhile
2-Question Approach

Is the patient responsive/conscious?
- Yes: Consider alternate conditions
- No: Repeat questioning

Is the patient breathing normally?
- Yes: Consider alternate conditions
- No: Repeat questioning

Possible Cardiac Arrest
START CPR
Because dispatcher CPR instructions substantially increase the likelihood of bystander CPR performance and improve survival from cardiac arrest, **ALL** dispatchers should be appropriately trained to provide telephone CPR instructions (Class I, LOE B).

2010 AHA Guidelines for CPR & ECC
“The Agony of Agonal Respirations”

LAUDP dispatchers waste time getting 911 callers to start CPR

September 2012

• Article in LA Times
  • "Speed is everything," says the report, which was obtained under the California Public Records Act. "Withholding or delaying [CPR] may result in a potentially preventable death!!"
“The Agony of Agonal Respirations”

- Percentage of CC started?
  - 31%

- Average time to begin CC?
  - 4 minutes and 12 seconds
  - Longest 7 minutes and 30 seconds
• Dispatchers should help 9-1-1 callers identify cardiac arrest victims and coach callers to provide immediate CPR.

—If more dispatchers followed these processes, thousands of lives could be saved every year.
• Communities should regularly evaluate 9-1-1 emergency dispatchers’ performance and the overall emergency response system,
—American Heart Association statement.
• Dispatchers should confidently give Hands-Only CPR instructions for adults who have had a cardiac arrest not caused by asphyxia (as in drowning).
• Communities should measure performance of dispatchers and local EMS agencies, including how long it takes until CPR is begun.

• Performance measurements should be part of a quality assurance program involving the entire emergency response system including EMS and hospitals.
Dispatcher as First, First-Responder

- Measure what you are doing now
- Look for ways to improve your process
- Empower your dispatcher to get hands on chest quickly
- Measure what you changes you make and outcomes