



**ThinkAskLearn**  
Health Professional Education

**Cardiac Arrest - Are we deluding ourselves?**

David Corkill  
MEmergN, MAdvPrac (Hth Prof Edu), BN, Dip App Sc

[www.thinkasklearn.com.au](http://www.thinkasklearn.com.au)



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**Death of Adonis – Reubans 1614**



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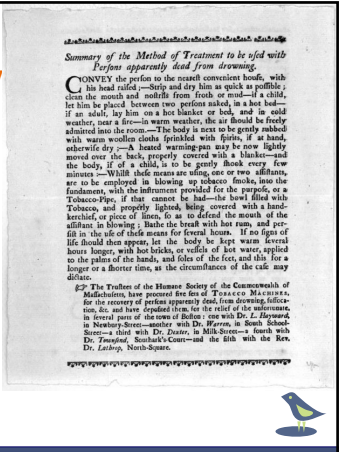
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Humane Society  
of the  
Commonwealth  
of  
Massachusetts  
1786



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August 1882 - Vacuum Jacket



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Other interesting methods

- 1530 – Bellows method  
– Stop due to over inflation of the lungs
- 1770 – Inversion method
- 1773 – Barrel method
- 1802 – Russian method
- 1812 – Horse trotting method  
– Ceased by 1815 "Citizens for Clean Beaches"
- 1892 – Tongue Stretching method



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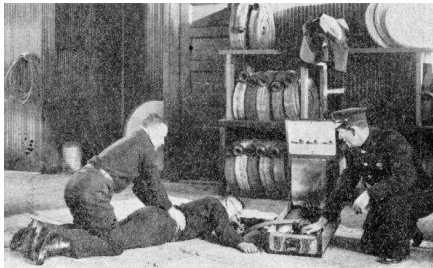
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Early Days of Resuscitation - Schafer's method



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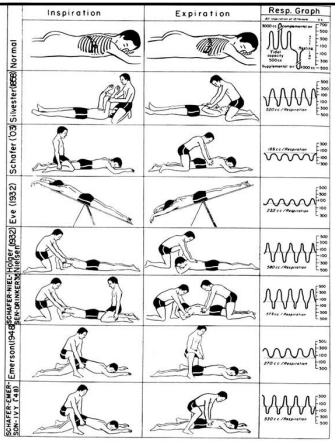
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Gordon A, Fainer D, Ivy A.  
Artificial respiration: a  
new method and a  
comparative study of  
different methods in  
adults. JAMA..  
1950;144:1455-1464.



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Silvester technique 1966



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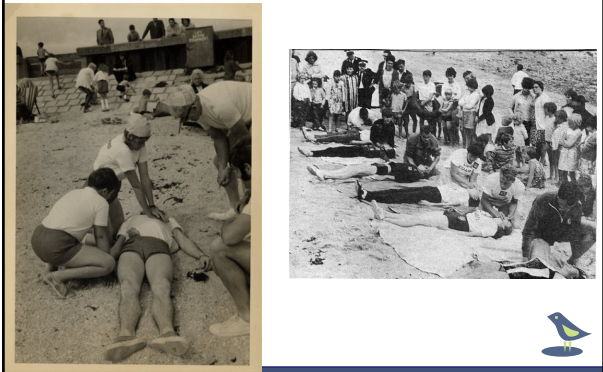
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Safar et al 1959



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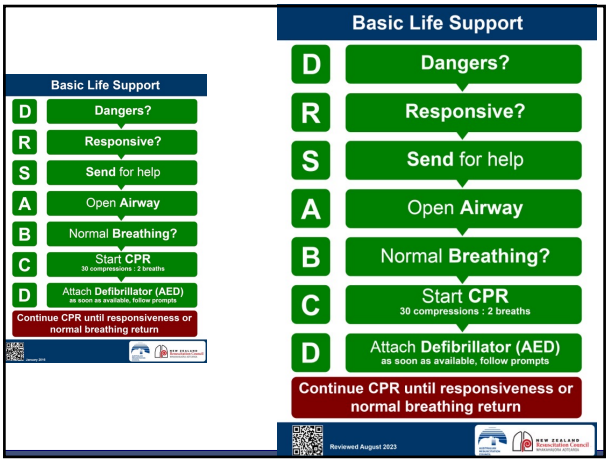
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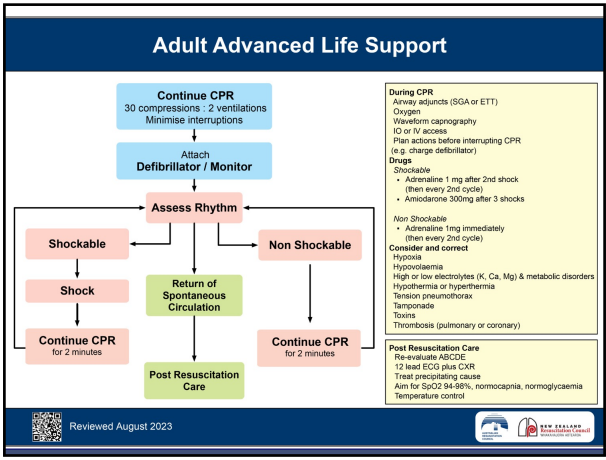
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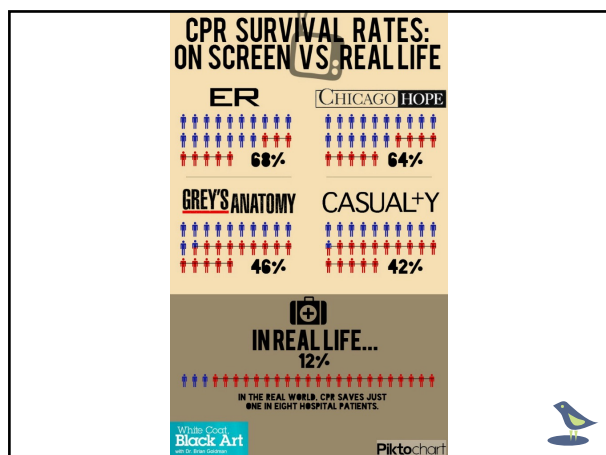
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**CARDIAC ARREST SURVIVAL IS RARE WITHOUT PREHOSPITAL RETURN OF SPONTANEOUS CIRCULATION**

David A. Wampler, PhD, LP, Lindsey Collett, EMT-P, Craig A. Manifold, DO, Christopher Velasquez, EMT-P, Jason T. McMullan, MD

PREHOSPITAL EMERGENCY CARE OCTOBER/DECEMBER 2012 VOLUME 16 / NUMBER 4

- 2,483 cardiac arrest from data registry
- 6.6% survival rate
- 36% achieved field ROSC (n=894)
- 17.2% with field ROSC survived (n=154 of 894)
- 0.69% with non field ROSC survived (n=11 of 1589)

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**Adrenaline – Going Going Gone?**

- Limited evidence for its ongoing use
- Some evidence improves outcome to ROSC
- No evidence in improving outcome
- Some evidence patients that got adrenaline were worse off
  - Myocardial Vasoconstriction

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*The NEW ENGLAND JOURNAL of MEDICINE*

ORIGINAL ARTICLE

### A Randomized Trial of Epinephrine in Out-of-Hospital Cardiac Arrest

G.D. Perkins, C.Ji, C.D. Deakin, T. Quinn, J.P. Nolan, C. Scamperin, S. Regan, J. Long, A. Slowther, H. Pocock, J.J.M. Black, F. Moore, R.T. Fothergill, N. Rees, L. O'Shea, M. Docherty, I. Gunson, K. Han, K. Charlton, J. Finn, S. Petrou, N. Stallard, S. Gates, and R. Lall, for the PARAMEDIC2 Collaborators\*

- Published on July 18, 2018, at NEJM.org.

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### What did they do?

- Double blind randomised controlled trial
- 8014 patients that had Out of Hospital Cardiac Arrest (OHCA)
- 4015 got adrenaline, 3999 patients got saline
- Primary outcome rate of survival at 30 days
- Secondary outcome – rate of survival to hospital discharge with favourable neurological outcome (Score 3 or less)

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Score	Definition
0	No symptoms
1	No significant disability. Able to carry out all usual activities, despite some symptoms
2	Slight disability. Able to look after own affairs without assistance, but unable to carry out all previous activities
3	Moderate disability. Requires some help, but able to walk unassisted
4	Moderately severe disability. Unable to attend to own bodily needs without assistance, and unable to walk unassisted
5	Severe disability. Requires constant nursing care and attention, bedridden, incontinent
6	Dead

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### The results

- Alive at 30 days
  - 130 from 4012 pts (3.2%)
  - 94 from 3999 pts (2.4%) (p=0.02)
- No difference at discharge with favourable neurological outcome
  - Severe neurological outcome wore in survivors with adrenaline
  - 31% adrenaline vs 17.8% with Placebo

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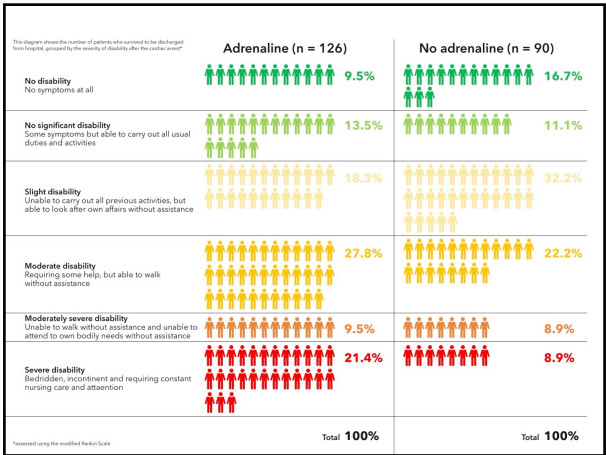
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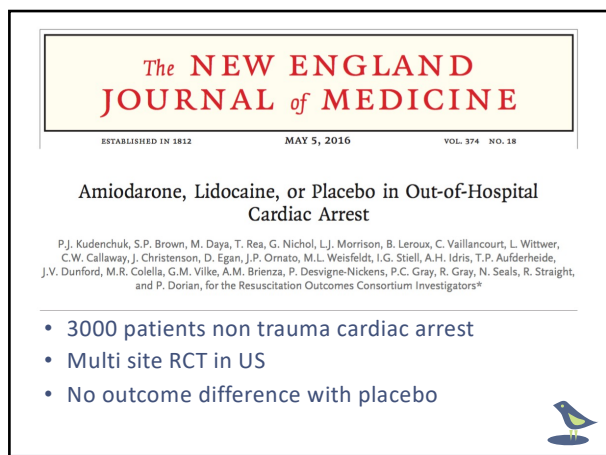
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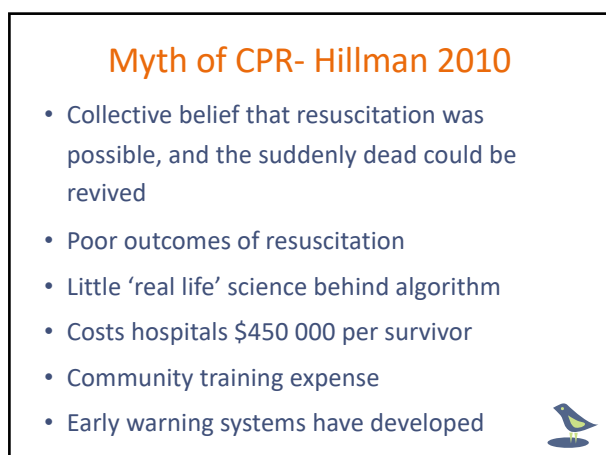
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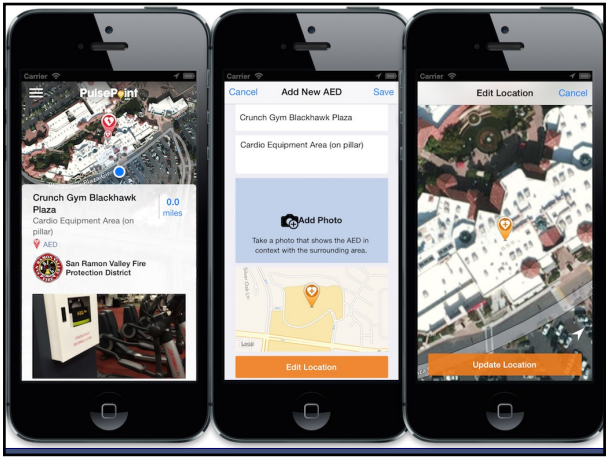
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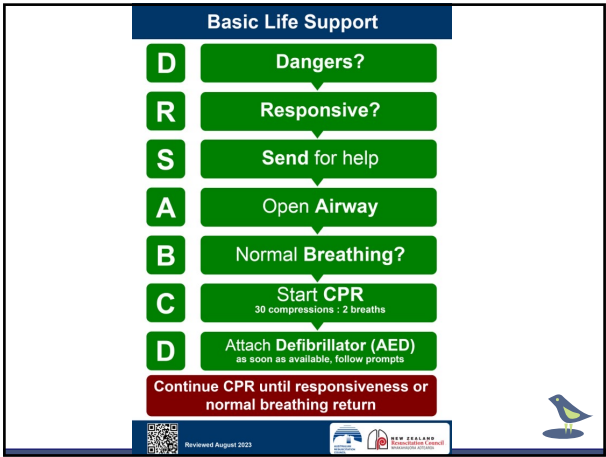
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Basic Life Support

D - Danger

R - Response?

S - Send for Help



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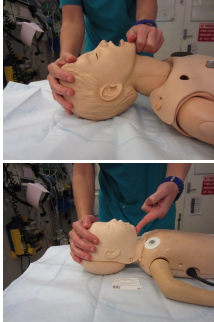
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Basic Life Support

S - Send for Help

A - Open Airway



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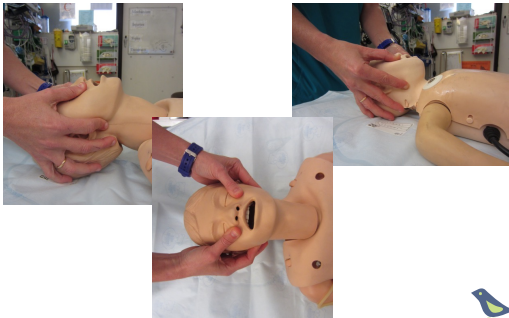
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Airway – Jaw Thrust



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**Basic Life Support**  
Look, Listen Feel

A - Open Airway

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B - Normal Breathing



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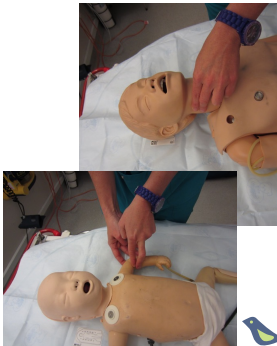
**Basic Life Support - Circulation**

B - Normal Breathing

↓

C – Start CPR

30 compressions – 2 breaths



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**Pulse Check and Circulation**

- Pulse palpation for 10 s cannot give a reliable measurement of the presence or absence of an effective circulation.
- Palpation of the pulse cannot be the sole determinant of the need for chest compressions
- Start chest compressions if:
  - No responsiveness or normal breathing
  - No pulse
  - Slow pulse

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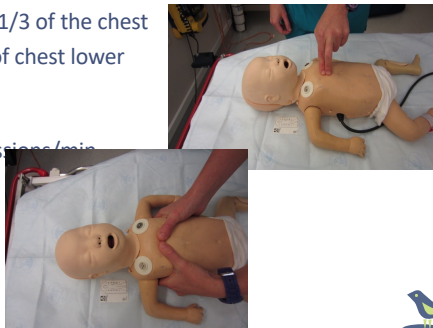
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“Don’t be afraid to push too hard”

- At least 1/3 of the chest
- Centre of chest lower half
- 100-120 compressions/min



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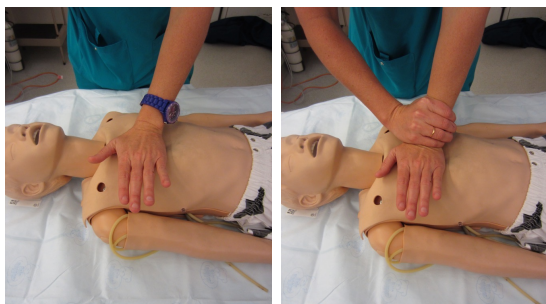
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Compressions – Hand placement older child



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Basic Life Support - Circulation

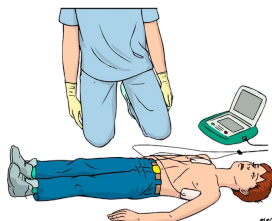
C – Start CPR

30 compressions – 2 breaths



D – Attach defibrillator

As soon as available



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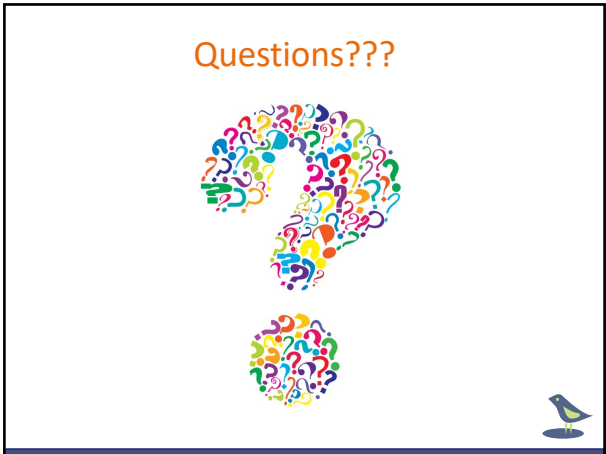
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