


**ThinkAskLearn**  
Health Professional Education

## Emergency First Aid Principles

### Busting a few myths

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



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## House of GOD – The rules

AT A CARDIAC ARREST, THE  
FIRST PROCEDURE IS TO TAKE  
YOUR OWN PULSE

Samuel Shem (1978)



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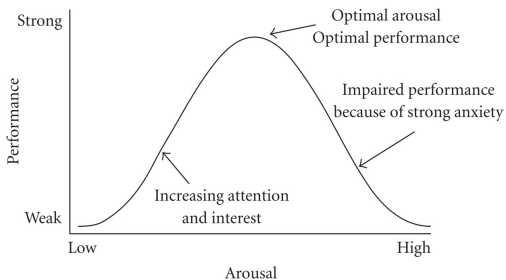
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## Yerkes-Dodson Graph



Performance

Strong

Weak

Low


Arousal

High

Increasing attention and interest

Optimal arousal  
Optimal performance

Impaired performance  
because of strong anxiety



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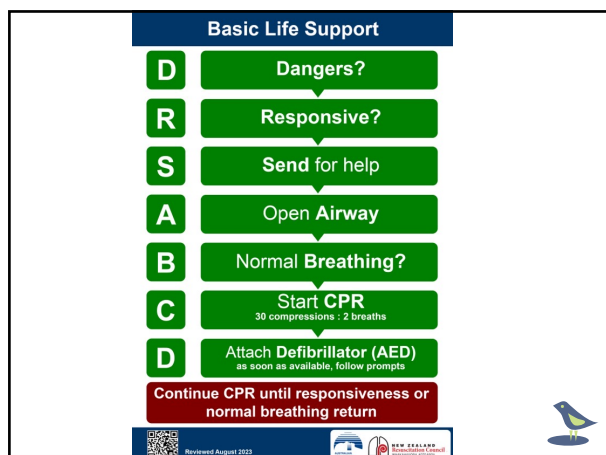
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- Stub, D., Smith, K., Bernard, S., Nehme, Z., Stephenson, M., Bray, J., ... & Kaye, D. (2015). Air versus oxygen in myocardial infarction (AVOID) trial sub-study: time-dependent effect of oxygen administration on myocardial injury. *Heart, Lung and Circulation*, 24, S374.

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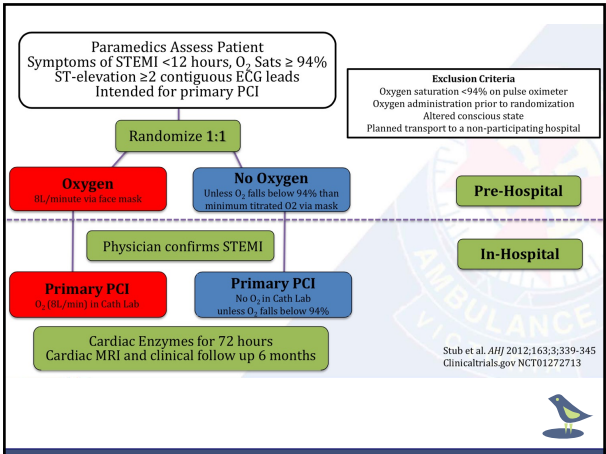
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**Primary Endpoint**

- Myocardial infarct size on cardiac enzymes
- Mean Peak Creatine Kinase
- Mean Peak Troponin I
- Area under curve of Creatine Kinase and Troponin I

**Pre-specified Clinical Secondary Endpoints**

- ST-segment resolution (12 lead ECG)
- Survival to hospital discharge
- MACCE: Death, MI, Revascularisation, Stroke at 6 months
- Myocardial infarct size on CMR at 6 months

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Secondary Endpoint CMR Infarct Size at 6 months				
CMR Infarct Size	Oxygen Arm N=65	No Oxygen Arm N=74	Ratio of means (Oxygen/No Oxygen)	P-value
Median (IQR), grams	20.3 (9.6, 29.6)	13.1 (5.2, 23.6)		0.04

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Values are %	Oxygen Arm N=218	No Oxygen Arm N=223	P-Value
<b>At Hospital Discharge</b>			
Mortality	1.8	4.5	0.11
Recurrent myocardial infarction	5.5	0.9	<0.01
Stroke	1.4	0.4	0.30
Major bleeding	4.1	2.7	0.41
Significant arrhythmia	40.4	31.4	0.05
ECG ST-segment resolution > 70%	62.0	69.6	0.10
<b>At 6 months follow up</b>			
Mortality	3.8	5.9	0.32
Recurrent myocardial infarction	7.6	3.6	0.07
Stroke	2.4	1.4	0.43
Repeat revascularization	11.0	7.2	0.17
MACCE	21.9	15.4	0.08

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### Where does it leave us

- Resuscitate all patients in 100% oxygen (Not Neonates)
- Post resuscitation titrate oxygen down to maintain saturation of 94-96% (ARC guidelines)
- Do not apply oxygen routinely to patients with Chest Pain
- In chest pain, apply oxygen if patient is in respiratory distress, O<sub>2</sub> Sats < 95% or patient is shocked



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## 11 Home Remedies For Chest Pain



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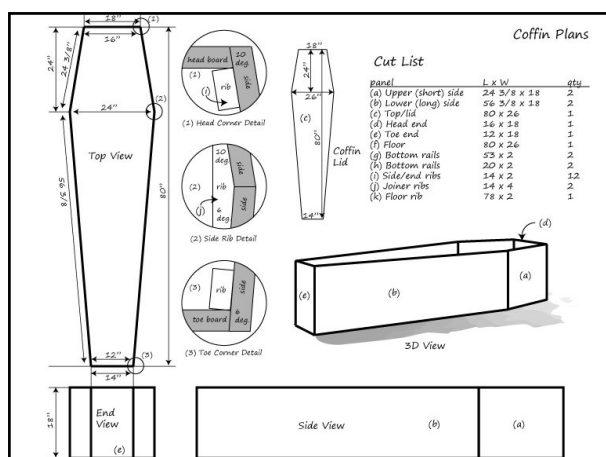
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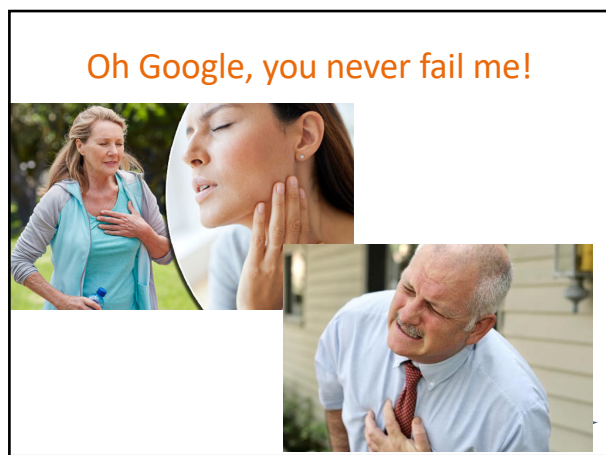
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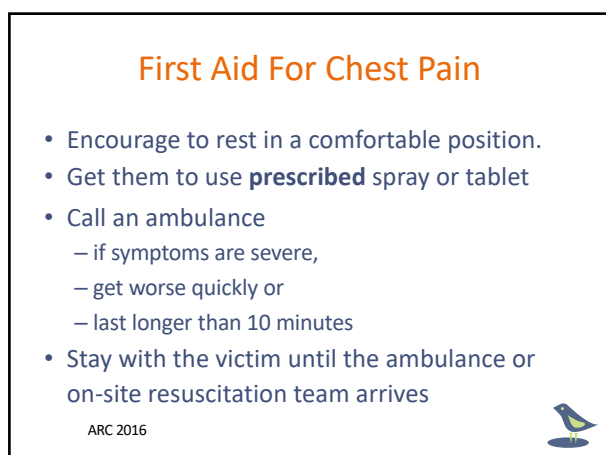
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### Aspirin + Chest Pain

- Now included for First Aiders to give
- Only for Adults- No mention of kids
- 300mg Dissolvable Aspirin
- Only withhold if the victim is known to be anaphylactic to aspirin.
- Check to see if they have had it earlier today

ARC 2016



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### Locate and bring AED



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### But do hard collars work???

- Kwan et al 2009 Cochrane
  - No evidence found
- Millar et al 2012
  - Patient moves neck, does not immobilise
- Holla, 2012
  - Head blocks do not work
- Bergan et al 2009
  - No more hard collar in awake conscious patients
  - Position of comfort



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### But what about...

- Spinal boards
  - Used for transfer
  - Remove asap
- Taping
  - No evidence
  - Can cause harm
- Head blocks, Sandbags, Bags of Fluid
  - No longer recommended



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But it is a simple hard collar

- Painful
- Airway occlusion
- Unable to visualise neck
- Vomiting/ Aspiration risk
- Non compliance in all age groups
- Poorly fitting
- Development of pressure area
- Able to move neck



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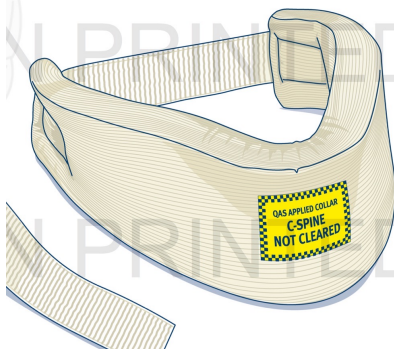
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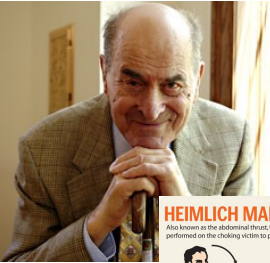
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### HEIMLICH MANOEUVRE

Also known as the abdominal thrust, this technique can be performed on the choking victim to prevent suffocation.



**1** Stand behind the victim and lean him slightly forward.

**2** Place your arms around the person and make a fist with one hand.

**3** Place your fist near the top of the stomach, just below the centre of the rib cage. Place your other hand over your fist and lock tight.

**4** Make a quick, hard inward and upward thrust against the diaphragm in the chest area which will compress the lungs, forcing air out and dislodge the food from the windpipe.

**5** Repeat the manoeuvre until the object is dislodged or the victim becomes unconscious.

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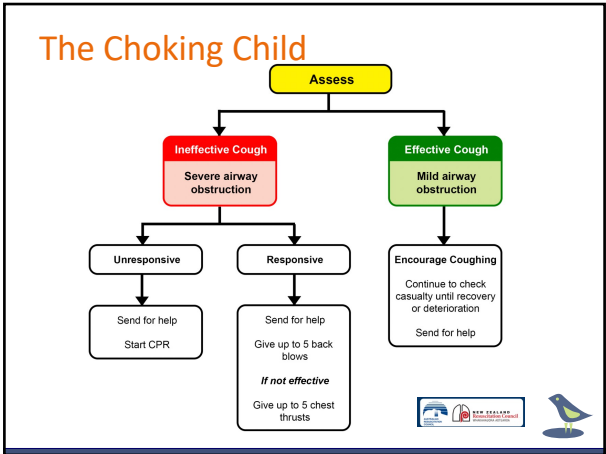
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## The Choking Child

- Finger ~~sweep~~
- Inspection under direct vision ✓
- Back blows / chest thrusts ✓
- Heimlich ~~manoeuvre~~



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The Choking Child



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Passive Leg Raise - Shock



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**Complications of the Trendelenburg position in the hypotensive patient**

- Anxiety and restlessness
- Progressive dyspnea
- Hypoventilation and atelectasis caused by reduced respiratory expansion
- Altered ventilation/perfusion ratios from gravitation of blood to the poorly ventilated lung apices
- Increasing venous congestion within and outside the cranium leading to increased intracranial pressure
- Pressure from abdominal organs is transmitted into the thoracic cavity, which can impair venous return to the heart, leading to a further decreased cardiac output and hypotension
- Increase risk of aspirating gastric contents

<http://lifeinthelastlane.com/trendelenburg-position-for-the-hypotensive-patient-friend-or-foe/>



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**ANZCOR Guideline 9.1.1 – Principles for the Control of Bleeding for First Aiders**



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Passive Leg Raise

- Can improve Cardiac output but results are not significant after 1 min
- ARC - No mention in current guideline
- Focus on ABC
- Control Bleeding using direct pressure



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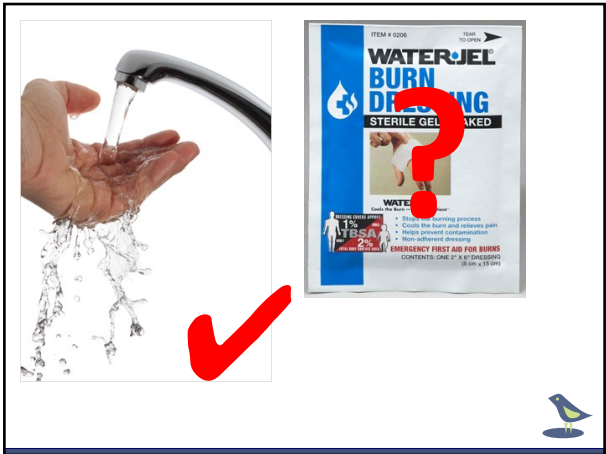
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