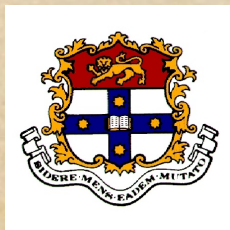


# Update in Adult life support

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# Outline

## ALS

- Update essentials
- Case scenario
- What you need to have
- CRM

# What is new.....

- Signs of Life
  - Unresponsive, not moving
- No pulse check
- 2 initial breaths instead of 5

# What is new.....

- Professional rescuers often over ventilate patients during CPR
- Resuscitation guidelines recommend one every 5 seconds (12/min)
- Elevated intrathoracic pressure from hyperventilation produces
  - In preload, cardiac output, coronary perfusion and  
↓ cerebral blood flow

• Pitts S, et al (Lancet, 2004); Aufderheide TP, et al (Circulation, 2004)

# What is new.....

- Position of hands
- Compression/Ventilation ratio is 30:2
- Applies to one or multiple rescuers
- Compress chest at 100/min
- Minimise interruptions to chest compression

# What is new.....

- Valenzuela TD, et al. (Circulation, 2005)
  - Reviewed 61 out of hospital cardiac arrests
    - Chest compressions were performed during only 43% of the total time patients were pulseless

# What is new.....

- Abella BS, et al.(Circulation 2005)
  - Evaluated compression rates in 97 cardiac arrests
    - Rate was less than 80 in 37%
    - Rate was less than 70 in 22%
- Higher compression rates are correlated with ROSC

# What is new.....

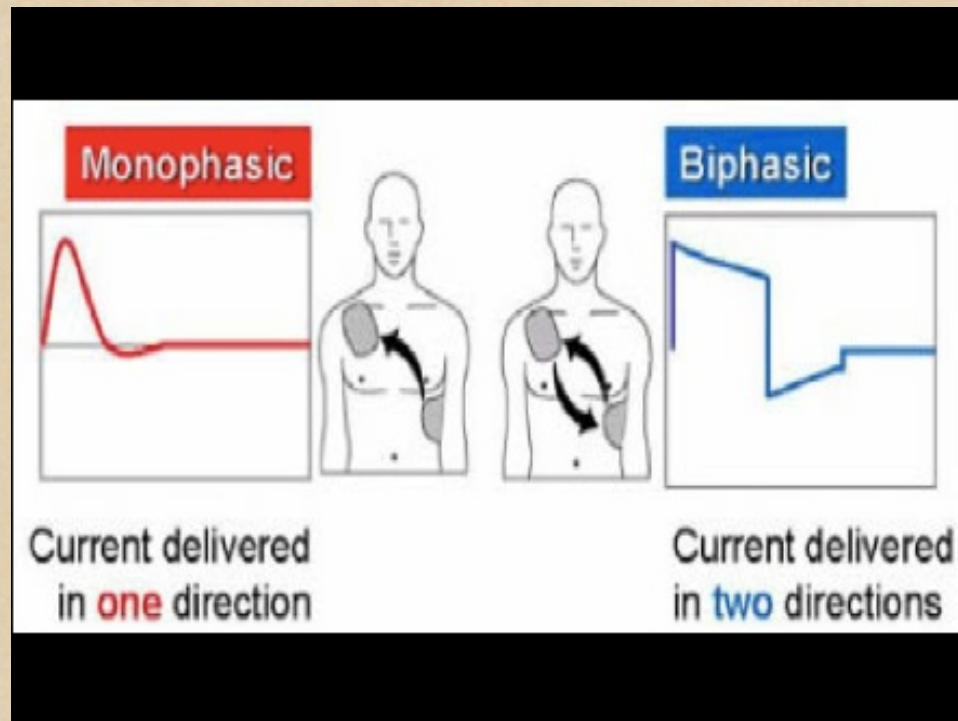
- Hostler D, et al (Resuscitation 2005)
  - Using old 15:2 rate only 60 compressions/min and 26s of hands off time
  - 30:2 rate gives you 100 compressions/min
- New recommendation for 1-2 person CPR for adults is 30 compressions to 2 breaths



## What is new with defibrillators

- Single shock Vs Stacked shocks for VF and pulseless VT
- Monophasic defibrillation - all shocks 360J
- Biphasic defibrillation - all shocks 200J
- After each defibrillation attempt give 2 minutes of CPR before checking pulse and rhythm
  - Proof of Life

# Defibrillators



From Yahoo Images

# Defibrillators

- “....no specific waveform (either monophasic or biphasic) is consistently associated with a greater incidence of ROSC or survival to hospital discharge rates after cardiac arrest than any other specific waveform”

• Circulation, 2005; 112(24):page 4-37

# Defibrillators

- If unknown time of collapse, greater than 4-5 minutes of VF, ILCOR and AHA recommendation is to give 2 minutes of chest compression. ARC recommendation is to give one shock and then start chest compressions

# Defibrillators

- Repeated sequence of initial shocks and escalating dosages of current no longer recommended
  - Biphasic defibrillators have a 90% first shock efficacy at terminating (at least temporarily) VF
  - Even with monophasic defibrillators, if the first shock is ineffective, it is unlikely that the subsequent 2 shocks will be effective
  - Data does not support the efficacy of escalating dosages for either monophasic or Biphasic defibrillators
  - ILCOR recommendation is a single shock, 200J for biphasic and 360J for monophasic defibrillators, ARC varies slightly.....

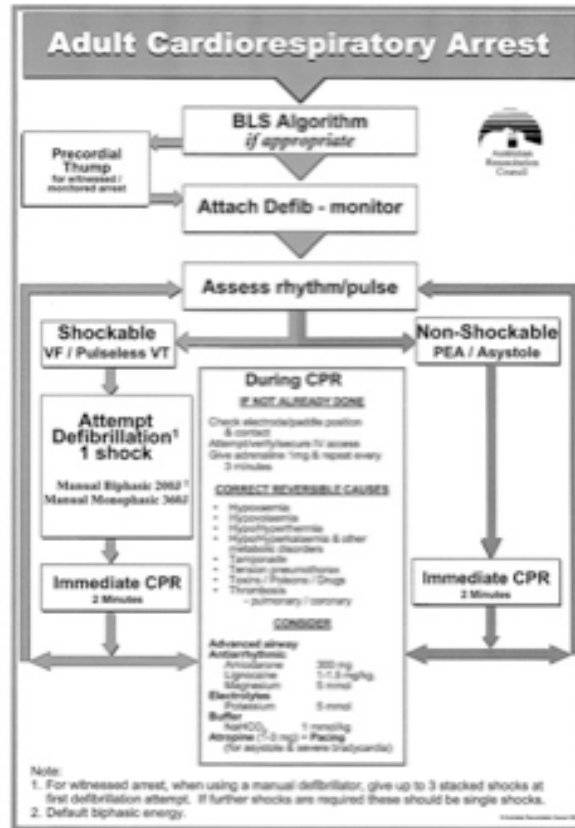
# What is new.....summary

- New motto: “Push Hard, Push Fast”
- Emphasis on optimising basic technique
  - Proper compression rate (100/min)
  - Minimise interruptions (never more than 15 seconds)
  - Avoid hyperventilation
  - Rapid single defibrillation

# The future.....

- Future is cardiocerebral resuscitation rather than cardiopulmonary
  - De-emphasis on early ventilation in typical cardiac arrest (does not apply to respiratory or paediatric arrest)
  - Passive oxygenation, good compressions, early defibrillation when needed
  - No positive pressure ventilation/intubation for the first 5-10 minutes
- New ILCOR guidelines Oct 2010

# ARC ALS Algorithm



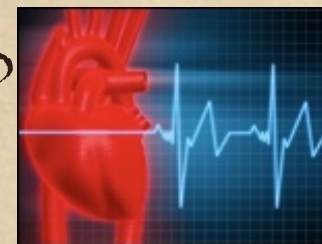


# Case

- 62 year old woman presents to your office with her husband for review of bilateral leg varicose veins
  - Secretary of a high profile radio personality
  - Smoker - 35 cigs/day; 30 gms of alcohol/day
  - IHD, AMI 5 years ago - stent LCA
  - HT and high cholesterol
  - On aspirin, amlodipine, pravastatin, clopidogrel

# Case

- As you are talking to her about p  
Mx options and costs
  - She suddenly grabs her chest
  - Gasps for breath
  - Falls backwards out of her chair



# Case

- You rush to her side
  - Agonal breaths
  - Cyanotic
  - No pulse
  - Bleeding from a scalp laceration
  - Husband is “frantic and irrational”





What Do You Do?



# Case

- DRABC
- Call for help
- Call 000
- Call for defibrillator
- Precordial thump
- CPR
- Defibrillate - 3 shocks
- Pressure to bleeding scalp
- Ventilation and Drugs
- How long do you go for?
- What do you do with the husband?



# What you should have

- Oxygen cylinder, regulator and tubing
- NRB masks, self inflating bag and mask
- Defibrillator
- Guedels and nasopharyngeal airways
- Adrenaline, atropine, naloxone, flemazenil

# Crisis Resource Management

- Know your environment
- Anticipate and Plan
- Call for help
- Prioritise
- Allocate attention wisely
- Distribute workload
- Communicate effectively

Thank You

