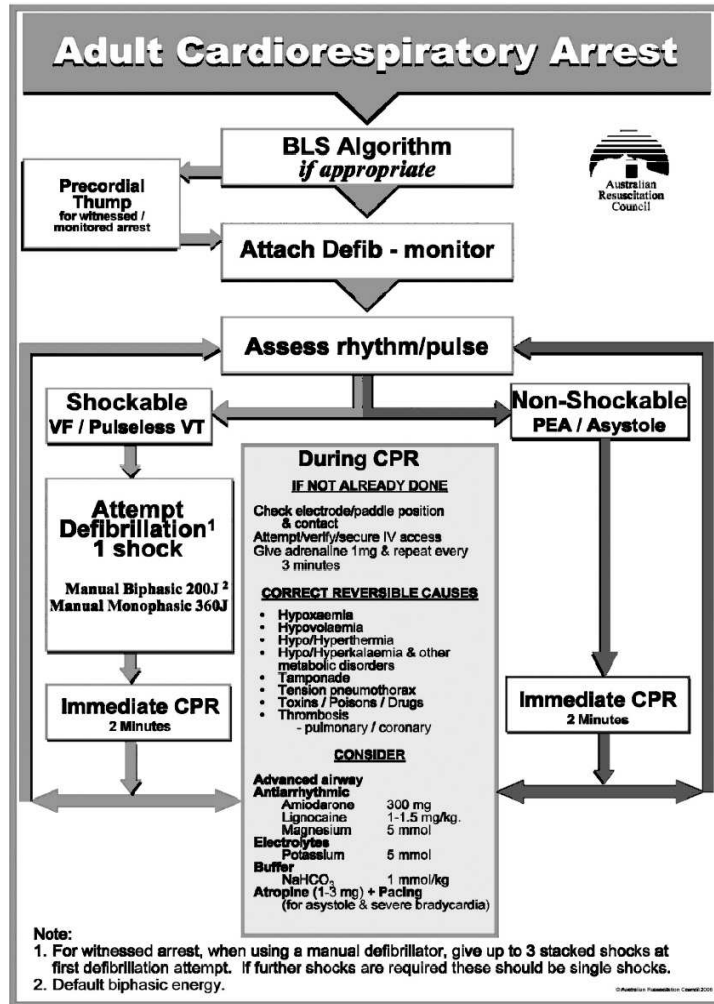


- Multiple human clinical studies have described initial biphasic defibrillator energy levels ranging from 100 J to 200 J, and subsequent energy levels ranging from 150 J to 360 J, without clearly demonstrating an optimal energy level.
- It is recommended that the default energy level for biphasic waveforms in adults should be 200 J for all shocks (although other energy levels may be used providing there are relevant clinical data for a specific defibrillator suggesting that these energy levels provide adequate shock success).
- With a monophasic defibrillator, an initial shock of 360J is recommended.

use adequate energy



2006 changes to ARC guidelines [created by Paul Young 10/10/07]

general

- The major changes to the previously published ALS guidelines relate to:
 - refocusing on the provision of good cardiopulmonary resuscitation (CPR) (including minimising the interruptions to CPR);
 - minimising the potential harm associated with ventilation; and
 - maximising the likelihood of successful defibrillation.
- In addition, a new guideline has been developed to expand on the legal and ethical issues related to resuscitation

basic life support

- no signs of life equals unresponsive, not breathing normally, not moving normally; pulse check is not required prior to commencement of CPR
- the term 'rescue breathing' has been replaced by expired air resuscitation
- compression ventilation ratio is 30:2 for children and adults
- same ratio regardless of the number of rescuers
- lower half of the sternum is identified by visualising the centre of the chest, no need to measure & remeasure
- 2 initial breaths not 5
- compressions at 100 per minute

advanced life support

- minimise interruptions to chest compressions
- if arrest is unwitnessed use a single shock instead of stacked shocks
- if arrest is witnessed up to 3 shocks may be given at the 1st attempt
- if monophasic defibrillator use 360J
- if biphasic defibrillator use 200J
- after each defibrillation perform 2 minutes of CPR before checking the pulse

perform good CPR

- Pauses in external cardiac compression during CPR are common, and appear to decrease the likelihood of successful defibrillation.
- A period of well performed CPR has been demonstrated to improve the ventricular fibrillation (VF) waveform, and increase the likelihood of defibrillation success.
- In some settings (eg, delayed response time), a period of CPR before defibrillation may increase the likelihood of defibrillation success.
- Given the small chance of immediate recovery of spontaneous circulation after defibrillation, it is recommended that CPR is recommenced immediately and, unless signs of life return, should be continued for 2 minutes before a rhythm check is performed

avoid harm due to ventilation

- Various studies have demonstrated that hyperventilation is associated with increased intrathoracic pressure, decreased coronary and cerebral perfusion, and, in animals, decreased return of spontaneous circulation.
- Further studies have reported unexpected return of spontaneous circulation in cases in which resuscitation had ceased, and ventilation was shown on repeated occasions (or was highly likely) to result in gas trapping and consequent haemodynamic compromise.
- recommendation for ventilation of a victim without an advanced airway is that ventilation should be continued at a ratio of 30 compressions to 2 ventilations until an advanced airway is in place.
- After an advanced airway (eg, tracheal tube or LMA) is placed, it is reasonable to ventilate the lungs at a rate of 8–10 ventilations per minute.

use single shocks

- The stacked-shock strategy has been associated with prolonged periods without CPR, for what appears to be limited incremental success.
- The initiation of a one shock strategy may improve outcome by reducing interruption of chest compressions. This strategy would be of benefit in scenarios where a significant time is required for rhythm recognition and recharging of the defibrillator (ie, > 10 seconds), but its benefits depend entirely on the quality of CPR performed between shocks.
- It is recommended that a single-shock strategy be used in patients in cardiac arrest requiring defibrillation for VF or pulseless VT. When using this strategy, CPR should be resumed immediately after shock delivery, and interruptions minimised.
- A stacked-shock strategy (using up to three shocks as necessary) is recommended in cases where the occurrence of the cardiac arrest (VF or VT) has been witnessed by the rescuer, and a manual defibrillator is immediately available. If further shocks are indicated, a single-shock strategy is recommended.

differences between ARC & overseas guidelines

- In the vast majority of situations, the ARC approach to the detailed management of cardiac arrest is almost identical to most recent versions of other published international guidelines.
- Differences include:
 - the continued support in Australia for a sequence of up to three shocks when the arrest is witnessed, and a defibrillator is immediately available.
 - the ALS flow chart, which is a slightly more detailed version of the universal algorithm.