Pre-Hospital Emergency Care Council

Pre-Hospital Defibrillation Position Paper

Mission Statement

"The Pre-Hospital Emergency Care Council protects the public by independently specifying, reviewing, maintaining and monitoring standards of excellence for the safe provision of quality pre-hospital emergency care"

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(Please visit the PHECC website to confirm current version.)

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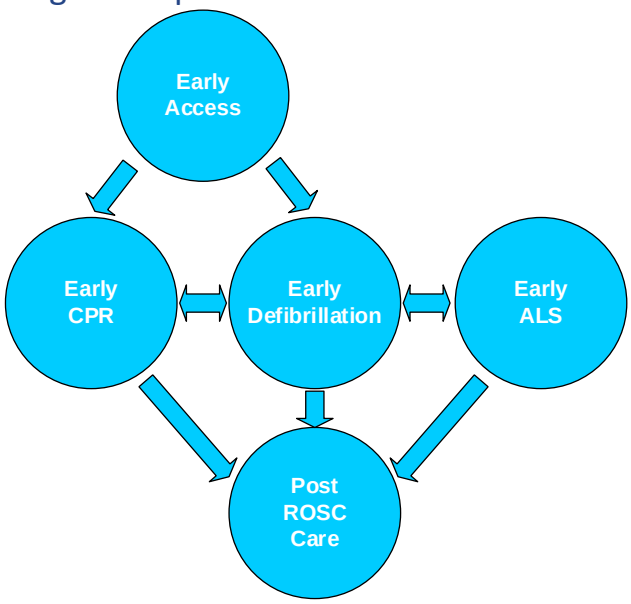
1	Oct 2014	Approved as Appendix 5 of the 2014 CPGs
2	June 2017	Approved by Council

PRE-HOSPITAL DEFIBRILLATION POSITION PAPER

Defibrillation is a lifesaving intervention for victims of sudden cardiac arrest (SCA). Defibrillation in isolation is unlikely to reverse SCA unless it is integrated into the chain of survival. The chain of survival should not be regarded as a linear process with each link as a separate entity but once commenced with 'early access' the other links, other than 'post-return of spontaneous circulation (ROSC) care', should be operated in parallel subject to the number of people and clinical skills available.

Cardiac arrest management process



ILCOR guidelines 2015 identified that without ongoing CPR, survival with good neurological function from SCA is highly unlikely. Defibrillators in AED mode can take up to 30 seconds between analysing and charging during which time no CPR is typically being performed. The position below is outlined to ensure maximum resuscitation efficiency and safety.

Position

1. Defibrillation mode

1.1 Advanced Paramedics, and health care professionals whose scope of practice permits, should use defibrillators in manual mode for all age groups.
1.2 Paramedics may consider using defibrillators in manual mode for all age groups
1.3 EMTs and responders shall use defibrillators in AED mode for all age groups.

2. Hands-off time (time when chest compressions are stopped)

2.1 Minimise hands-off time, absolute maximum 10 seconds.
2.2 Rhythm and/or pulse checks in manual mode should take no more than 5 to 10 seconds and CPR should be recommenced immediately.
2.3 When defibrillators are charging CPR should be ongoing and only stopped for the time it takes to press the defibrillation button and recommenced immediately without reference to rhythm or pulse checks.
2.4 It is necessary to stop CPR to enable some AEDs to analyse the rhythm. Unfortunately this time frame is not standard with all AEDs. As soon as the analysing phase is completed and the charging phase has begun CPR should be recommenced.

3. Energy

3.1 Biphasic defibrillation is the method of choice.

3.2 Biphasic truncated exponential (BTE) waveform energy commencing at 150 to 360 joules shall be used.

3.3 If unsuccessful, the energy on second and subsequent shocks shall be as per manufacturer of defibrillator instructions.

3.4 Monophasic defibrillators currently in use, although not as effective as biphasic defibrillators, may continue to be used until they reach the end of their lifespan.

4. Safety

4.1 For the short number of seconds while a patient is being defibrillated, no person should be in contact with the patient.

4.2 The person pressing the defibrillation button is responsible for defibrillation safety.

4.3 Defibrillation pads should be used as opposed to defibrillation paddles for pre-hospital defibrillation.

5. Defibrillation pad placement

5.1 The right defibrillation pad should be placed mid-clavicular directly under the right clavicle.

5.2 The left defibrillation pad should be placed mid-axillary with the top border directly under the left nipple. If the defibrillation pads are oblong the pad should be placed in the horizontal line of the body.

5.3 If a pacemaker or Implantable Cardioverter Defibrillator (ICD) is fitted, defibrillator pads should be placed at least 8 cm away from these devices. This may result in anterior and posterior pad placement which is acceptable.

6. Paediatric defibrillation

6.1 Paediatric defibrillation refers to patients less than 8 years of age.

6.2 Manual defibrillator energy shall commence and continue with 4 joules/Kg.

6.3 AEDs should use paediatric energy attenuator systems.

6.4 If a paediatric energy attenuator system is not available, an adult AED may be used.

6.5 It is extremely unlikely to ever have to defibrillate a child less than 1-year-old. Nevertheless, if this were to occur the approach would be the same as for a child over the age of 1. The only likely difference being, the need to place the defibrillation pads anterior and posterior, because of the infant's small size.

7. Implantable Cardioverter Defibrillator (ICD)

7.1 If an Implantable Cardioverter Defibrillator (ICD) is fitted in the patient, treat as per CPG. It is safe to touch a patient with an ICD fitted even if it is firing.

8. Cardioversion

8.1 Advanced Paramedics are authorised to use synchronised cardioversion for unresponsive patients with a tachyarrhythmia greater than 150.

8.2 For narrow complexes commence cardioversion at 50 joules

8.3 For wide complexes commence cardioversion at 100 joules

8.4 If unsuccessful with cardioversion escalate energy by 50 joules

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