

Standards for *cardiac arrest* education sessions (specialist pain medicine physicians)

CONTEXT

The ANZCA CPD standard requires participants to complete two activities from the Emergency Responses category during each CPD triennium.

The purpose of this document is to assist hospital departments, private practice groups and continuing medical education providers to develop and/or conduct these education sessions.

Education sessions are required to include a practical simulation component. Simulation in this context may mean bench top training in a local department, not necessarily fully immersive mannequin based simulation in a centre.

Hospital departments and private practice groups are encouraged to develop education sessions that satisfy local needs, incorporating local staff, work environment and equipment.

BACKGROUND TO CARDIAC ARREST (SPECIALIST PAIN MEDICINE PHYSICIANS) ACTIVITY

Procedures in pain medicine include diagnostic and interventional procedures for acute, cancer, and chronic non-malignant pain. They can be delivered in a variety of settings including operating theatres, inpatient wards and outpatient clinics. Cardiac arrest complicating a procedure administered for pain is rare, but all clinical specialist pain medicine physicians must be prepared to manage such a crisis. This requires a clear understanding of current advanced life support guidelines.

This document recognises that specialist pain medicine physicians who are not practising anaesthetists may not have extensive training in advanced life support, and that there are causes of cardiac arrest that are relatively more specific to settings where procedures for pain are being practised.

DEFINITIONS AND TERMS

All definitions and abbreviations used are to be consistent with those of the Australian Resuscitation Council (ARC) and the New Zealand Resuscitation Council (NZRC). The following acronym is relevant to this document:

ALS Advanced Life Support

For the purposes of clarifying terms that are used within this document, the following definitions are provided:

Clinical Lead

- The medical officer nominated by each department/group to oversee the provision of the Cardiac Arrest education sessions conducted by that provider.
- Does not necessarily need to attend the session in person.
- Needs to be at level of consultant, and appropriately skilled and experienced to oversee the development of the session content. Ideally the clinical lead will have medical education experience and/or credentials. The clinical lead is encouraged to complete a provider course for the algorithm being taught, where one has been established. May assume the role of lead facilitator for a particular session.

Lead Facilitator

- The medical officer who oversees the conduct of a cardiac arrest education session.
- Needs to be at a level of FPM trainee or higher, or ANZCA ATY2 or higher, and be appropriately skilled and experienced to deliver the content of the session.
- Ideally the lead-facilitator will have medical education experience and/or credentials.

Instructor

- A person who conducts the individual “hands-on” skills stations/scenario rehearsals with guidance from the lead facilitator. Does not necessarily need to be a medical officer.
- Needs to be appropriately skilled and experienced.
- Ideally the instructors will have medical education experience and/or credentials.

RECOGNISED EMERGENCY ALGORITHMS

ANZCA and FPM exclusively endorses the [ALS guidelines](#) of the Australian Resuscitation Council and the New Zealand Resuscitation Council. Specialists with specific sub-specialty practice, or specialists resident in other countries, should contact the [CPD team](#) to ascertain if alternative guidelines are recognised for their individual circumstances.

LEARNING OBJECTIVES

As a minimum, education sessions are required to provide the opportunity for participants to meet the learning objectives listed below. Objectives marked with an asterisk (*) require participants to actively engage in hands-on activities to practice this skill during the session.

By the end of the education session, participants will be able to:

1. Describe the ALS algorithm including 'shockable' and 'non shockable' pathways
2. Recognise ventricular fibrillation (VF), pulseless ventricular tachycardia (VT), pulseless electrical activity (PEA) and asystole
3. Recognise predisposing medical conditions for cardiac arrest (for e.g. coronary artery disease, structural heart disease, permanent pacemaker/automated implantable cardioverter defibrillator, pulmonary hypertension, severe obstructive sleep apnoea)
4. Describe reversible causes of cardiac arrest in any setting:
 - 4 H's
 - Hypoxia
 - Hypovolaemia
 - Hypothermia
 - Hyperkalaemia
 - 4 T's
 - Tension pneumothorax
 - Tamponade
 - Toxins
 - Thromboembolism
5. Recognise other causes of cardiac arrest that are relatively more specific to pain management practice (anaphylaxis, local anaesthetic toxicity, high-spinal, cerebrovascular injection of local anaesthetic, tension pneumothorax, sedation related airway obstruction and respiratory depression)
6. Recognise the clinical features of cardiac arrest*
7. Initiate the management of patients with cardiac arrest*
8. Demonstrate basic airway manoeuvres (chin lift and jaw thrust), and the appropriate sizing and insertion of oropharyngeal and nasopharyngeal airways*
9. Demonstrate oxygenation and ventilation using a face mask and self-inflating bag*
10. Demonstrate appropriate sizing and insertion of a supraglottic airway device*
11. Demonstrate external cardiac compression*
12. Recognition of need for early defibrillation if shockable rhythm
13. Demonstrate the safe use of a defibrillator* (It is strongly recommended that practitioners familiarise themselves with the type of defibrillator(s) available in their usual workplace/s)
14. Demonstrate the appropriate selection and administration of drugs in cardiac arrest*
15. Demonstrate leadership, including clear instruction of resuscitation priorities to team*
16. Recognise return of spontaneous circulation
17. Discuss the appropriate time and manner in which to cease resuscitation efforts
18. Describe the fundamentals of post-resuscitation care
19. Describe the principles and application of a structured approach to handover in the acute care setting
20. Recognise that non-technical and teamwork skills, as well as initiation of management protocols, are vital in the management of cardiac arrest.

OPTIONAL

Education session providers may elect to expand the focus of teaching to include additional objectives if it is deemed that this would facilitate more effective teaching for the particular target audience. Suggestions for consideration include:

- Recognise the non-technical and teamwork competencies that have a positive impact during management of cardiac arrest complicating a pain management procedure and employ strategies to utilise them
- Discuss the role of cognitive aids in the management of cardiac arrest
- Recognise the role of human centred design as it relates to emergency equipment and medical practices
- Discuss the use of cardio-version and external pacing
- Recognise peri-arrest arrhythmias
- Discuss the legal, ethical, and occupational health and safety issues associated with ALS interventions
- Describe documentation requirements around cardiac arrest

STRUCTURE OF EDUCATION SESSION

The education session is required to:

1. Provide pre-course reading that refers to the relevant algorithms/guidelines used in the session and provides relevant foundation knowledge of the session content.
2. Be deliverable as a continuous session or in parts.
3. Have a minimum total duration of ninety (90) minutes and provide hands-on activities, which include scenario-based rehearsal, to achieve objectives marked with an asterisk (*). A minimum of eighty (80) minutes of group practice is recommended.
4. Include a variety of team-based scenarios, including shockable and non-shockable rhythms.
5. Be conducted by a lead facilitator and provide at least one instructor per four participants. Instructors need to observe each participant while they are working through scenarios and provide verbal feedback to ensure they are achieving the objectives of the session.
6. Utilise the following equipment:
 - mannequin that can:
 - be ventilated via bag-mask
 - have a supraglottic airway inserted
 - have CPR performed on it
 - be defibrillated
 - self-inflating bag plus face mask
 - oropharyngeal airways, nasopharyngeal airways and supraglottic airways in different sizes
 - defibrillator
 - ability to display relevant arrhythmias, either on a monitor or in hard copy
7. Course directors who wish to record information relating to the performance or conduct of participants must obtain written consent and adhere to the privacy policies of their organisation and location. ANZCA and FPM do not collect this information and it is optional for the course provider and director to do so.

SESSION MATERIALS

Session materials, in hard copy or electronic form, need to include the following:

- Session objectives
- Session outline
- Facilitators' guide (including equipment list, scenario outlines, and a guide to the safe use of the defibrillator/s to be used)
- ALS algorithms as handouts
- Session evaluation forms for feedback from participants and facilitator
- Participant list containing the date, venue, names and appointment types of participants.