

Committee for Examinations Objective Structured Clinical Examination

Station 5
Melbourne April 2016



1.0 Descriptive summary of station:

In this station, the candidate is expected to perform cardiopulmonary resuscitation on Ken, an elderly man (manikin) who has collapsed in his unit within a retirement village.

1.1 The main assessment aims are to:

- Demonstrate the ability to perform cardiopulmonary resuscitation (CPR) while providing a commentary to the examiner.
- Demonstrate skills on how to use an automated external defibrillator (AED) and contraindications for the use of AED.
- Demonstrate knowledge of when to stop CPR and the difference between adult CPR and that in children and infants.

1.2 The candidate MUST demonstrate the following to achieve the required standard:

- Check for safety and responsiveness.
- Demonstrate correct adult CPR technique - position and depth of hands, 30 compressions to 2 breaths.
- Be aware of at least 2 of the reasons to stop CPR.
- Know that CPR takes precedence over defibrillation, except when the AED machine specifically commands this.

1.3 Station covers the:

- **RANZCP OSCE Curriculum Blueprint Primary Descriptor Category of:**
Medical Disorders in Psychiatry
- **Area of Practice:**
Adult Psychiatry
- **CanMEDS Domains of:**
Medical Expert
- **RANZCP 2012 Fellowship Program Learning Outcomes of:**
Medical Expert (Assessment - Physical Technique, Selection, Examination Commentary)

References:

- ANZCOR – Australian New Zealand Council of Resuscitation guideline, January 2016.
- Cardiopulmonary Resuscitation – Australian Resuscitation Council, December 2010.
- International Liaison Committee on Resuscitation (ILCOR) at www.ilcor.org

1.4 Station requirements:

- Large consulting room with clear floor area.
- Three chairs (examiner x 1, candidate x 1, observer x 1).
- Laminated copy of 'Instructions to Candidate' (3 copies).
- Simulated patient – manikin.
- Automated external defibrillator (AED)
- Alcohol wipes, disposable gloves, sufficient protective face shields for hygiene during mouth-to-mouth component of CPR.
- Pen for candidate.
- Timer and batteries for examiner.

2.0 Instructions to Candidate

You have **eight (8) minutes** to complete this station after **two (2) minutes** of reading time.

You are working as a junior consultant psychiatrist in the older persons' mental health community team. During a residential care home visit, you are guided to Ken, an elderly gentleman who has collapsed on the floor.

Your tasks are to:

- Respond to the situation and perform cardiopulmonary resuscitation (CPR) while providing a running commentary of your actions to the examiner.
- Demonstrate how to use an automated external defibrillator (AED) and explain the key safety concerns and contraindications to consider when using an AED.
- Explain to the examiner when you would stop performing CPR on any casualty and the technique for performing CPR on a child and an infant.

If you have not already commenced, you will receive a time prompt at **four (4) minutes** to proceed to the second and third tasks.

NOTE: Appropriate steps will be taken to disinfect and clean the manikin between each candidate.

If you have any physical condition that would limit your ability to complete these tasks, please alert the examiner.

Please note that post-exam, you will be requested to provide a medical report detailing your physical condition.

Station 5 - Operation Summary

Prior to examination:

- Check the arrangement of the room, including seating and other specifics to your scenario, e.g. space to set up manikin and have protective face shields and alcohol wipes nearby, space to undertake CPR on a manikin, fan is switched on, etc.
- On the desk, in clear view of the candidate, place:
 - Duplicate copy of 'Instructions to Candidate'.
 - Pens.
 - Water & tissues are available for candidate use.
- On the floor, in clear view of the candidate, place:
 - Manikin with shirt.
 - Protective face shields for candidate use.
 - Alcohol antibacterial / disinfectant wipes.
 - Duplicate copy of 'Instructions to Candidate'.
 - Automated External Defibrillator (AED).

During examination:

- Please ensure mark sheets and other station information, are out of candidate's view.
- At the **first bell**, take your places.
- At the **second bell**, start your timer, check candidate ID number on entry and say:
"Doctor, the door was open so I came in and found him on the floor. I checked for a pulse. I hope that was the right thing to do?"
- TAKE NOTE of the time for the scripted prompt you are to give at **four (4) minutes**.
- DO NOT redirect or prompt the candidate unless scripted. If the candidate asks you for information or clarification say:
"Your information is in front of you – you are to do the best you can."
- At **four (4) minutes**, as indicated by the timer, you are to say:
"Please proceed to the second task."
- At **eight (8) minutes**, as indicated by the timer, the final bell will ring. Finish the examination immediately.

At conclusion of examination:

- Retrieve all station material from the candidate.
- Complete marking and place your mark sheet in an envelope by / under the door for collection (**do not seal envelope**).
- **IMPORTANT**: During the 2 minutes reading time, after you have completed marking the candidate, please ensure room is set up again for next candidate:
 - Pour multiple water cups and place them on the table for easy access to the candidates.
 - Switch on the fan and ensure it is blowing in the general direction over the manikin.
 - Clean the manikin's mouth with disinfectant wipes and dry with paper towels at the beginning of the day and after each candidate.
 - Turn off AED and place the electrodes within the AED box.
 - Zip up the manikin's shirt in preparation for the next candidate.
 - Place the protective face shields nearby.
 - Duplicate copy of 'Instructions to Candidate' is placed in its original position on the floor.
 - Use the room deodoriser spray as required.

If a candidate elects to finish early:

- You are to state the following:
***"Are you satisfied you have completed the task(s)?
If so, you must remain in the room and NOT proceed to the next station until the bell rings."***
- If the candidate asks if you think they should finish or have done enough etc. refer them back to their instructions and ask them to decide whether they believe they have completed the task(s).

3.0 Instructions to Examiner

3.1 In this station, your role is to:

Observe the activity undertaken in the station and judge it according to the station assessment aims and defined tasks as outlined in 1.1 and 1.2.

When the candidate enters the room briefly check ID number and say:

“Doctor, the door was open so I came in and found him on the floor. I checked for a pulse. I hope that was the right thing to do?”

At four (4) minutes if the candidate has not moved to the second task the examiner says:

“Please proceed to the second task.”

IMPORTANT: Please turn off the AED immediately after the candidate has demonstrated how to use the AED to avoid loud beeps.

When the candidate leaves the room,

- Pour multiple water cups and place them on the table for easy access to the candidates.
- Ensure the fan is blowing in the general direction over the manikin.
- Clean the manikin's mouth with disinfectant wipes and dry with paper towels at the beginning of the day and after each candidate.
- Ensure the AED is turned off and place the electrodes within the AED box.
- Zip up the manikin's shirt in preparation for the next candidate.
- Place the protective face shields nearby.
- Use the room deodoriser spray as required.

3.2 Background information for examiners

In this station the candidate is expected to explain how to perform CPR on an adult and also demonstrate use of a defibrillator (AED). The candidate will explain the differences between CPR for adults and infants / children. The candidate must demonstrate that they understand when to stop CPR and the contraindications for use of AED.

In order to do this the candidate should:

- Take control of the situation as soon as they enter the station.
- Seek help if available.
- Perform cardiopulmonary resuscitation and provide running commentary.
- Be aware of key safety concerns to consider when using a defibrillator.
- Explain how to perform CPR on a child.

It would be acceptable for the candidate to ask the examiner if you (as the clinician) have had CPR training and are able to assist. They might instruct you to look out for the ambulance to direct the paramedics in as quickly as possible.

To **Achieve** in this station the candidate **MUST**:

- Check for safety and responsiveness.
- Demonstrate correct adult CPR technique – position and depth of hands, 30 compressions to 2 breaths.
- Be aware of at least 2 of the reasons to stop CPR.
- Know that CPR takes precedence over defibrillation, except when the AED machine specifically commands this.

When responding to a situation where someone has collapsed, the chain of survival includes early access to care including early activation of the ambulance service and timely, effective provision of CPR. The purpose of CPR is to maintain blood flow and therefore oxygen to vital organs until ambulance paramedics can provide more advanced care. Defibrillation is another important early intervention. Defibrillation stops certain dangerous cardiac rhythms and assists in regaining normal rhythm. It should not be administered to the patient in asystole.

A primary survey of the situation should be undertaken using: DRS ABCD (more recently – CAB: Danger, Responsiveness, Seek for help, Chest compressions, Airway and Breathing).

Danger – check for hazards / risks / safety. Identify hazards at the scene and prioritise risk to yourself; then any bystanders and finally the casualty. Bystanders should be kept at a safe distance or asked to seek support, call an ambulance etc.

If it is safe to do so, any hazards should be removed or controlled in order to prevent further injuries – in this situation the candidate should consider environmental hazards like gas leaks or electrical discharge in the house, etc.

Responsiveness – determine the casualty’s level of consciousness, initially done through ‘talk and touch’ but not by rigorous shaking; often following COWS:

- Can you hear me?
- Open your eyes
- What is your name?
- Squeeze my hands

Send for Help – request an ambulance.

ABCD - If unconscious, as in this case, follow Airway, Breathing, CPR, Defibrillation

Airway	<ul style="list-style-type: none"> • Tilt head back. • Look in mouth for foreign bodies, finger sweep technique (index & middle finger). • Remove dentures if loose. • If water / vomit / blood etc. place the person in the recovery position.
Breathing	<ul style="list-style-type: none"> • Look. • Listen. • Feel.
CPR	<ul style="list-style-type: none"> • Administered to a person who is unresponsive and not breathing normally.
Defibrillation	<ul style="list-style-type: none"> • Use of an Automated External Defibrillator (AED).

The candidate is expected to accurately perform the CPR technique:

1. Partially remove any clothing that may inhibit performance of compressions.
2. Place heel of one hand on the centre of the lower half of the chest, on the sternum.
3. Place other hand on top.
4. Demonstrated high quality chest compressions – adequate rate of 100-120/minute, adequate depth of 2 inches or 5 cm, allowing full chest recoil between compressions, minimising interruptions in chest compressions and avoiding excessive ventilation.
5. Tilt head back and give two rescue breaths.
6. Continue cycle of compressions and rescue breaths, ratio of 30 compressions: 2 breaths.
7. Continue until (1) paramedics or another person takes over, (2) the casualty is responsive and breathing normally, (3) it becomes impossible for you to continue (due to safety or exhaustion).

Compressions and breathing should be to **the standard, and with the acceptable variations (as indicated at training)**.

CPR in non-adults:

Child: use one hand only for compressions and rescue breaths are not required.

Infant: use two fingers only and do not tilt head back. Rescue breaths are not required.

Recent evidence has shown that compression only CPR may work as well as CPR with rescue breaths, but this has not yet been adopted into the national standards. The exceptions to this are children and victims of drowning.

Defibrillation

NOTE: CPR takes precedence over defibrillation and the candidate should be aware that the preparation to use an AED must be done with minimal interference to the person providing CPR.

Before using an AED, check for puddles or water near the person who is unconscious. Move him or her to a dry area, and stay away from wetness when delivering shocks as water conducts electricity.

Turn on the AED's power. The device will give you step-by-step instructions. You will hear voice prompts and see prompts on a screen.

Expose the person's chest. If the person's chest is wet, dry it. AEDs have sticky pads with sensors called electrodes. Apply the pads to the person's chest as pictured on the AED's instructions.

Place one pad on the right centre of the person's chest above the nipple. Place the other pad slightly below the other nipple and to the left of the ribcage.



Picture from: ANZCOR Guideline 7 – Automated External Defibrillation in Basic Life Support

Make sure the sticky pads have good connection with the skin. If the connection is not good, the machine may repeat the phrase "check electrodes."

If the person has a lot of chest hair, you may have to trim it (AEDs usually come with a kit that includes scissors and / or a razor). If the person is wearing a medication patch that is in the way, remove it and clean the medicine from the skin before applying the sticky pads.

Remove metal necklaces and underwire bras. The metal may conduct electricity and cause burns. You can cut the centre of the bra and pull it away from the skin.

Check the person for implanted medical devices, such as a pacemaker or implantable cardioverter defibrillator (the outline of these devices is visible under the skin on the chest or abdomen, and the person may be wearing a medical alert bracelet). Also check for body piercings.

Move the defibrillator pads at least 1 inch away from implanted devices or piercings so the electric current can flow freely between the pads.

Check that the wires from the electrodes are connected to the AED. Make sure no one is touching the person, and then press the AED's "analyse" button. Stay clear while the machine checks the person's heart rhythm.

If a shock is needed, the AED will let you know when to deliver it. Stand clear of the person and make sure others are clear before you push the AED's "shock" button.

Start or resume CPR until emergency medical help arrives or until the person begins to move. Stay with the person until medical help arrives, and report all of the information you know about what has happened.

Primary Safety Concerns:

1. Non-Contact: no person or conductive material to be either in direct or indirect contact with the causality at the time of defibrillation.
2. Non-Conduction: no conductive items in the areas of the causality (water / rain, fluids like vomit, blood or perspiration on chest).
3. Non-Explosive: do not defibrillate if there is chance of explosion due to oxygen, petroleum liquid or other flammable substances.

There are times when CPR should be ceased:

- a) the victim responds or begins breathing normally.
- b) it is impossible to continue (e.g. exhaustion) or danger.
- c) a health care professional or another person takes over CPR.
- d) a health care professional directs that CPR be ceased.

Better candidates may surpass if:

- they know that the current CPR guidelines are being reviewed again (e.g. consideration of dropping the rescue breaths completely and increasing the pressure to half the chest depth).
- they are able to provide statistics about the survival rates associated with delayed CPR and defibrillation (e.g. every minute defibrillation is delayed there is approximately 10% reduction in survival from a cardiac arrest due to ventricular fibrillation).
- They know that AEDs are not used in asystole.

CHECKLIST FOR ASSESSMENT OF ADEQUACY OF CPR

	Attempted Adequate	Attempted Inadequate	Not Attempted
Assesses <u>DANGER</u> in environment [e.g. "no gas, fire, electricity"]			
Assesses consciousness / <u>RESPONSIVENESS</u> ["unconscious, unresponsive to touch"]			
<u>AIRWAY</u> : Checks airway for obstruction ["no obstruction"]			
Positions head and neck correctly to clear airway			
<u>BREATHING</u> : Assesses breathing ["not breathing"]			
Initiates effective expired air respiration gives 2 effective rescue breaths			
<u>COMPRESSIONS</u> : Initiates high quality chest compressions, lower half sternum, heel of hand and other over			
Correct ratio of compressions: Respirations 30:2			
Correct rate of compression At the rate of 100-120 / min Depth of 2 inches / 5 cm			

3.3 The Standard Required

In order to:

Surpass the Standard – a better candidate demonstrates competence above the level of a junior consultant psychiatrist in several of the domains described below.

Achieve the Standard – the candidate demonstrates competence expected of a junior consultant psychiatrist. That is the candidate is able to demonstrate, *taking their performance in the examination overall*, that

- i. they have competence as a **medical expert** who can apply psychiatric knowledge including medico-legal expertise, clinical skills and professional attitudes in the care of patients, (such attitudes may include an ability to tolerate uncertainty, balance, open-mindedness, curiosity, “common sense” and a scientific approach).
- ii. they can act as a **communicator** who effectively facilitates the doctor patient relationship.
- iii. they can **collaborate** effectively within a healthcare team to optimise patient care.
- iv. they can act as **managers** in healthcare organisations who contribute to the effectiveness of the healthcare system, organise sustainable practices and make decisions about allocating resources.
- v. they can act as **health advocates** to advance the health and well-being of individual patients, communities and populations.
- vi. they can act as **scholars** who demonstrate a life-long commitment to learning as well as the creation, dissemination, application and translation of medical knowledge.
- vii. they can act as **professionals** who are committed to ethical practice and high personal standards of behaviour.

Below the Standard – the candidate demonstrates significant defects in several of the domains listed above.

Does Not Achieve the Standard – the candidate demonstrates significant defects in most of the domains listed above or the candidate demonstrates significant defects in the first domain of being a medical expert.

STATION 5 – MARKING DOMAINS

The main assessment aims are to:

- Demonstrate the ability to perform cardiopulmonary resuscitation (CPR) while providing a commentary to the examiner.
- Demonstrate skills on how to use an automated external defibrillator (AED) and contraindications for the use of AED.
- Demonstrate knowledge of when to stop CPR and the difference between adult CPR and that in children and infants.

Level of Observed Competence:

1.0 MEDICAL EXPERT

1.5 Did the candidate demonstrate adequate technique in performing CPR? (Proportionate value – 30%)

Surpasses the Standard (scores 5) if:

achieves a score of at least 4 *and* performs a detailed, rapid and comprehensive assessment; overall technique is accurate and well organised; is aware that there is evidence that compressions only without rescue breaths would also be effective, but this has not been accepted into the national standards; recognises the exceptions for this are children and people who have drowned.

Achieves the Standard by:

demonstrating an accurate examination, covering all essential aspects; determines DRS CAB; opens airway, removes foreign materials, checks breathing (look, listen and feel), giving at an adequate rate of 100-120/minute; allowing full chest recoil between compressions.

To score 3 or above the candidate **MUST**:

- check for safety and responsiveness.
- demonstrate correct adult CPR technique - position and depth of hands, 30 compressions to 2 breaths.

A score of 4 may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

Below the Standard (scores 2 or 1) if:

scores 2 if the candidate does not meet (a) or (b) above, or has omissions that would detract from the overall quality response. Significant omissions affecting quality scores 1.

Does Not Achieve the Standard (scores 0) if:

incorrect technique is utilised; inadequate technique in more than one assessment area above.

1.5 Category: ASSESSMENT – Physical - Technique	Surpasses Standard	Achieves Standard		Below the Standard		Standard Not Achieved
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

1.5 Did the candidate demonstrate adequate technique in using the AED? (Proportionate value – 30%)

Surpasses the Standard (scores 5) if:

achieves a score of at least 4 *and* performs a detailed, rapid display of how to use the AED; overall technique is accurate and well organised; confident about the range of safety concerns and contraindications of defibrillators.

Achieves the Standard by:

clearly knowing where to place the leads and quickly follows the prompts provided by the AED; being aware of most of the dangers, care should be taken not to touch the person during shock delivery and is aware that asystole is a contraindication to using an AED; clarifying that CPR takes precedence and that the person using the AED must not ask for the CPR to be stopped, except when the machine specifically commands this.

To score 3 or above the candidate **MUST**:

- know that CPR takes precedence over defibrillation, except when the AED machine specifically commands this.

A score of 4 may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

Below the Standard (scores 2 or 1) if:

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response. Significant omissions affecting quality score 1.

Does Not Achieve the Standard (scores 0) if:

there is inadequate technique in more than one part of the process; does not demonstrate any familiarity with an AED; recommends technique that places self and others at risk.

1.5 Category: ASSESSMENT – Physical - Technique	Surpasses Standard	Achieves Standard		Below the Standard		Standard Not Achieved
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**1.8 Did the candidate make an appropriate selection of processes involved in CPR?
(Proportionate value - 30%)**

Surpasses the Standard (scores 5) if:

achieves a score of at least 4 *and* is able to explain the differences between infant, child and adult CPR and the rationale; able to specify all of the four conditions under which CPR should be stopped.

Achieves the Standard by:

being able to enumerate 3 of the conditions under which CPR can be stopped; being aware of the method for CPR in a child or infant, but not both.

To score 3 or above the candidate **MUST**:

- a. be aware of at least 2 of the reasons to stop CPR.

A score of 4 may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

Below the Standard (scores 2 or 1) if:

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response. Significant omissions affecting quality score 1.

Does Not Achieve the Standard (scores 0) if:

is unaware of when to stop CPR; describes incorrect technique for infants and children; is unaware of differences between adult, child and infant CPR.

1.8 Category: ASSESSMENT - Selection	Surpasses Standard	Achieves Standard		Below the Standard		Standard Not Achieved
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**1.7 Did the candidate undertake tasks with appropriate commentary as per examiner instructions?
(Proportionate value - 10%)**

Surpasses the Standard (scores 5) if:

the candidate provides sophisticated running commentary and is focussed on describing all necessary findings.

Achieves the Standard (scores 4 or 3) by:

providing a generally accurate description of the technique while performing CPR; the candidate instructs the examiner to seek for further help; provides adequate explanation of rationale for each process / task; any errors are minor.

A score of 4 may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

Below the Standard (scores 2 or 1) if:

the candidate partly provides commentary or is vague when requesting for further help.

Does Not Achieve the Standard (scores 0) if:

the candidate incorrectly describes technique; commentary is incomplete or disorganised, does not mention seeking for any further help.

1.7 Category: ASSESSMENT - Examination Commentary	Surpasses Standard	Achieves Standard		Below the Standard		Standard Not Achieved
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

GLOBAL PROFICIENCY RATING

Did the candidate demonstrate adequate overall knowledge and performance at the defined tasks?

Circle One Grade to Score	Definite Pass	Marginal Performance	Definite Fail
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