
Station THREE: Simulation

Candidate instructions

You are the consultant in charge of your tertiary referral ED, it is 1700hrs on a weekday evening.

You have been called to immediately attend a patient in a resuscitation cubicle that your junior registrar has just handed over to you.

Your setting:

- Tertiary referral centre Emergency department. All major services on site.
- Available staff - one experienced registrar, 2 ED nurses

The patient:

- 69 yo female – fractured NOF after a mechanical fall. She has a history of subclinical hypothyroidism and hypertension, and is taking perindopril and thyroxine. She has no known allergies. She has been stable with no other injuries. She has had standard treatment according to the hospital NOF pathway , and is awaiting admission under the Orthopaedic team.

Your tasks are to:

- Attend the distress call and manage the situation as it unfolds

This OSCE will assess the following Domains:

- Medical expertise
 - Assessment
 - Treatment
 - Teamwork and collaboration
-

Role player instructions

This resuscitation scenario will examine the ability of the candidate to perform the role of a team leader with a group they are unfamiliar with, start treatment for a cardiac arrest of unknown cause, work well as a leader for this resuscitation scenario and respond to information provided during the scenario. The candidate will enter the room to find the patient in a cardiac arrest with a wide complex tachycardia. They are expected to assume effective leadership including allocation of appropriate roles to team members. They are expected to demonstrate a structured approach to the resuscitation including an appropriate list of potential causes in this patient. The patient in this scenario has local anaesthetic systemic toxicity, which the candidate is expected to recognise and demonstrate knowledge of the management of this condition. This will be prompted for if needed. If appropriate treatment is given the patient will recover spontaneous circulation.

Registrar role:

- Senior registrar competent in all resuscitation procedural skills
- able to perform patient assessment and convey findings to the candidate as requested
- At 3 minutes (if not already commenced) you will prompt the candidate to address reversible causes- 'what do you think is going on?'
- At 5 minutes (if not already mentioned) you will prompt the candidate to consider local anaesthetic toxicity - 'Could this have anything to do with the femoral nerve block?' and/or 'the junior registrar seemed confused about the right dose of bupivacaine'

Nurse role:

- You are a competent ED nurse
- You will confirm all doses/ orders with the candidate, where appropriate you will write on the whiteboard
- Where observations or the situation changes you will convey this information

However

- You will not show initiative or suggest solutions/problems e.g. If the BP is low you will merely state 'The BP is 75' and try to avoid statements that tend to suggest that there is a problem needing fixing 'The BP is still low at 75, should we do something about that' or
-

potential solutions ‘Would you like to give some fluid for that?’. This can be difficult as it is the opposite of good nursing practice

- If a candidate has mentioned a particular treatment/management earlier in the scenario which has not actually been delivered it is reasonable to give a reminder e.g. ‘What did you say earlier about the BP?’ or ‘should we give the x now?’

Stage 1. Initial Resuscitation (1-3 min)

Candidate will enter the room and find the patient on a monitor with a WCT. There will be 2 ED nurses and a senior registrar already in the room

Helper 1 – (competent senior nurse)

- I am a senior nurse – I can’t find a pulse

Helper 2 (second ED nurse) –

- how can I help? (after senior nurse)

Helper 3 – ‘I am a senior registrar – would you like me to attend the airway?’

((Helper 4 – Can I help you in any way? – I am a resus nurse))

Scenario should unfold in the following way:

- Assumes role of team leader
- Start chest compressions
- Place pads on chest
- Assess rhythm (ideally using COACH method)
- Identification of shockable rhythm and Defibrillation
- Immediately recommence CPR, minimising hands off time

(Above is all minimum criteria to pass)

Senior nurse reports she is capable and trained to run the debrillator and will run the ALS algorithm and feedback when ready in the 5th set

Airway doctor will report airway is patent and is able to easily BVM currently

Stage 2. Address reversible causes (3 - 5 min)

Start to address reversible causes and address history

If not entering this stage the airway doctor will say – What do you think is going on?

Here a DDX will be assessed or at least address 4 H's and T's

To pass the candidate must produce a reasonable list of reversible causes **in this patient**, which demonstrates expert level knowledge and understanding of the situation

Stage 3. Specific management of LAST (5-7 min)

Registrar prompt (if not already considered):

Does the femoral nerve block have anything to do with this, I thought the dose seem wrong?

If the candidate has considered local anaesthetic toxicity, but not expanded further the registrar can also prompt for further detail. 'You mentioned local anaesthetic toxicity as a possible cause... what specific treatment should we give for this?'

General supportive treatment:

- iv fluid bolus for hypotension
- diazepam for seizures
- Correct hypoxia

Specific treatments :

- **Sodium bicarbonate** for ventricular arrhythmias 1-2 mmol/Kg of 8.4% every 2 minutes until perfusing rhythm is achieved
- IV **Lipid emulsion** 20%. 1.5ml/kg push then infusion
- Methylene blue for methaemoglobinaemia (not common with bupivocaine). 1-2 mg/kg over 5 minutes
- Discussion with toxicologist
- Consideration of need for prolonged resuscitation efforts
- Consideration of ECMO

If there is time the registrar should ask the candidate about the next steps in resuscitation including definitive airway, ongoing infusions, disposition, debriefing and open disclosure.

Examiner instructions

Background medical expertise for examiners :

Clinical Features:

Early: Tinnitus, dizziness, anxiety, confusion and perioral numbness

Severe CNS: Seizures, coma

Severe Cardiovascular: bradycardia, hypotension, atrial and ventricular

Antidotes:

- Sodium bicarbonate for ventricular dysrhythmias
- Intravenous lipid emulsion in severe cardiovascular instability, cardiac arrest refractory to standard measures.
- Methylene blue is the antidote for methaemoglobinaemia. (dysrhythmias, cardiovascular collapse and asystole)

Key assessment criteria:

Medical expertise

- Assessment – identification of pulseless VT
- Attempts to ascertain the history of the pre arrest events
- Runs through a DDX when the hx of a # NOF is revealed and then LA toxicity when the dose of bupivacaine is revealed

Treatment

- Resuscitation of pulseless VT – shockable rhythm
- CPR
- ABC
- Reference to 4 H's and T's

Specific management for bupivacaine

- Hco₃ and correct dose
 - Intralipid
 - Consideration of ECMO
 - prolonged resuscitation efforts
-

Team work and collaboration

- Role allocation and clarification around level of expertise
- Communication with the team and assume role of team leader
- Makes thinking visible to the team and delegates simple tasks to team members
- Responds to the information from props and prompting (if required)

Minimum pass criteria

- Competent and safe initiation of standard ACLS measures
 - Appropriate use of team members
 - Clear communication of essential information e.g deliver shock
 - Generation of appropriate list of reversible causes
 - Recognition of local anaesthetic toxicity as a possible cause (can be after receiving prompt)
 - Reasonable knowledge and discussion of specific measures to treat LA toxicity
-



OSCE Station:

COMPONENT ASSESSMENT

For each domain below select the **ONE** option which best represents this candidates performance. The option '**Minimum level of competency displayed**' represents the minimum level of safe independent practice as a junior FACEM in Australasia.

Response Category	Percentage
Very poor	35%
Well below minimum standard	25%
Below minimum standard	15%
At minimum standard	10%
Above minimum standard	8%
High standard	5%
Very High standard	3%

Please rate all the following domains:

Medical Expertise

Teamwork and Collaboration

EXAMINER'S COMMENTS

GLOBAL ASSESSMENT RATING

Please rate this candidate's OVERALL performance in this OSCE:

In terms of a **safely practising junior emergency physician** please select the ONE option which best reflects this candidate's performance in this station

**Well
Below
Standard**

☐

**Below
Standard**

☐

**Just at
Standard**

☐

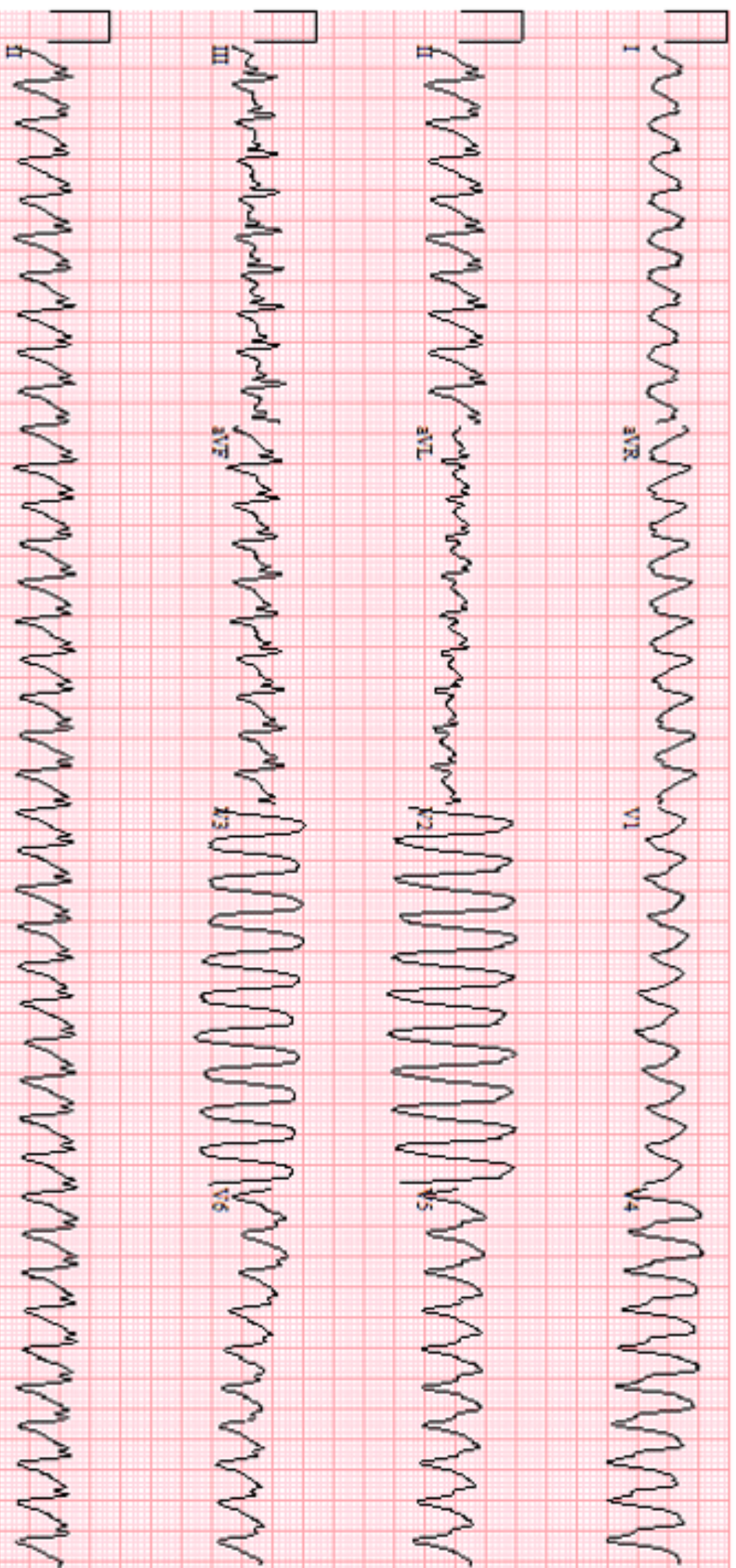
**Above
Standard**

☐

**Well
Above
Standard**

☐

ECG (During arrest)



Props (if requested)

