



AUSTRALASIAN COLLEGE
FOR EMERGENCY MEDICINE

2016.1B FELLOWSHIP CLINICAL EXAMINATION (OSCE)

STATION 10 UPPER LIMB EXAMINATION

1. STATION SUMMARY

Examination of upper limb of patient who has had a spontaneous reduction of an elbow dislocation. Ongoing ulnar sensory neuropraxia. Orthopaedic, vascular, neurological examination.

2. CANDIDATE INSTRUCTIONS

You are working in the Ambulatory care area of your emergency department.

You are about to review your next patient and read the Triage notes:

"23 year-old male, 1st year medical student, R elbow injury after fall onto outstretched arm in hospital grounds. Initially (?) dislocated, apparently reduced when friend moved arm. Tingling in hand, improving. Now appears reduced, in sling, ice applied. No other apparent injuries. Paracetamol / ibuprofen given."

Your tasks are to:

- Perform a focused examination of his right arm
- Explain your examination as you proceed (the patient is a medical student and will ask you to do this for their own learning)
- Provide an explanation of your assessment and management plan

You are not expected to teach the medical student or to assess their level of knowledge.

This OSCE will assess the following domain:

- Medical Expertise

3. ROLE-PLAYER INSTRUCTIONS

This station assesses the candidate's ability to perform a focused upper limb examination of a patient presenting after an apparent R elbow dislocation with spontaneous reduction prior to arrival. It is an isolated injury.

The patient (you) in the OSCE is a 1st year Medical student (haven't covered upper limb anatomy yet) and the candidate has been asked to explain their examination to you as they proceed. When they begin examining you please say *'Can you tell me what you are doing and looking for as you go...I'm interested for my own learning'*

If they ask you any questions regarding your medical knowledge, say *'We haven't done that yet'*.

The candidate has been asked to explain to you their assessment and plan for further investigation and management. If they have not done so then at approximately the 5½ minute mark you will say *'What do you think is going on? What will the plan be from here?'*

You will have your right arm in a sling and will be holding a blue 'cold pack' over your elbow. You will be seated. You are comfortable; the Nurse has given you some pain relief.

The candidate is expected to:

- Clarify the history:
 - Fell running on grass in hospital gardens accident – you landed on outstretched R arm, immediate severe pain and crunching sensation in your elbow. Your hand was tingly 'all over' and looked white.
 - Unable to move arm. Friend was helping you to get out of the bushes, they lost balance and moved your arm, felt the elbow 'go back in' with marked reduction in pain. Sling applied, ice. If they ask, *'the tingling is improving'*. If they ask where it is tingling now say *'the whole hand I think'*.
 - No other injuries
 - No past medical history, no allergies. R handed. Social sports.
 - If asked you had some tingling in your whole hand, seems to be improving.
- Conduct orthopaedic examination:
 - Elbow: Confirm relocation by palpating humeral epicondyles and olecranon which should be in an 'equilateral triangle' relationship. If they comment on a lack of swelling say *'It only happened about 10 minutes ago'*
 - If necessary ask *'Can you tell if it is back in?' 'How?'*
 - Forearm/ wrist/ scaphoid/ hand
 - They may suggest gentle range of motion examination or assessment of the ligaments. If so say *'OK, but it was pretty sore!'*
- Conduct vascular assessment:
 - Capillary refill, perfusion, radial pulse
 - *'Why are you assessing that?'* – They should tell you that vascular injury to the brachial artery is a rare complication of dislocation, and because your hand was pale at the time
- Conduct neurological assessment:

You may need to ask them to explain how they are assessing the sensation and motor function of each of the following nerves, ask for adequate detail so that it is clear. *'What are you assessing now?' 'What nerve are you testing?' 'What are you looking for?'* Ensure that they explain how they are testing for the motor and sensory component for all 3 nerves.

 - Ulnar nerve:
 - Sensation: Medial 1 ½ fingers. It is numb to touch. The pin does not feel sharp but you can feel it (if they test)
 - Motor: Holding paper between 2 fingers, gripping paper between thumb and index or making ring sign (thumb bends = Froment's sign), finger abduction (pushing apart), ulnar wrist deviation FCU. Power is reduced with thumb adduction and finger abduction.

- Median nerve:
 - Sensation: Palm of hand. Lateral fingers.
 - Motor: Thumb abduction (pen-touching), thumb opposition, thumb tip flexion.
- Radial nerve:
 - Sensation: Dorsum of base of thumb.
 - Motor: Wrist extension, thumb extension .

If their examination is incomplete then ask *'Is there anything else that you need to examine?'*

- Assessment: At approximately the 5½ minute mark ask *'What do you think is going on? What will the plan be from here?'*
 - Diagnosis
 - Dislocation elbow, now reduced
 - Ulnar nerve neuropraxia: Should resolve with time, related to nerve stretching
If necessary ask *'What about the numbness and weakness...what is that from?'* *'Will it get better?'*
 - Investigation
 - Xray to assess for avulsion / other injury
 - Management
 - Analgesia, ice
 - Short period of immobilization for comfort: plaster back slab or sling/similar. If necessary ask *'Do I stay in a sling?'* *'For how long?'*
 - Early mobilisation 1-2 weeks, ideally physio to assist
 - Review in orthopaedic clinic would be standard
If necessary ask *'Will I need any follow-up?'*

4. EXAMINER INSTRUCTIONS

This station assesses the candidate's ability to perform a focused upper limb examination of a patient presenting soon after an apparent R elbow dislocation with spontaneous reduction prior to arrival. It is an isolated injury.

The patient in the OSCE is a Medical student and the candidate has been asked to explain their examination as they proceed. The candidate has been asked to explain their plan for further investigation and management (at approximately the 5½ minute mark the Role Player will ask them for this). The Role player will have their right arm in a sling and will be holding a blue 'cold pack' over their elbow.

Key Actions Expected from Candidate

- Clarify the history: fell running on grass in hospital grounds – landed on outstretched R arm, immediate pain and crunching sensation in elbow. Was unable to move arm. Felt tingling in hand, hand was pale and white. Friends were helping him to get up out of bushes, they lost balance and moved his arm, felt the elbow 'go back in' with marked reduction in pain. Tingling has improved if asked. Sling and cold pack applied. No other injuries, no PMHx. Right handed.
- Confirm relocation: equilateral triangle relationship of epicondyles and olecranon.
 - May possibly move elbow through gentle ROM
- Exclude other orthopaedic injuries: Palpate radius/ ulna, examine wrist, scaphoid, hand.
- Vascular assessment: Perfusion, capillary refill, radial pulse.
- Neurological assessment hand
 - Radial nerve: Wrist extension, sensation dorsum base thumb
 - Median nerve: Thumb IP flexion, thumb opposition/pen-touching, sensation to palm.
 - Ulnar nerve: There will be numbness in ulnar N distribution (med 1½ fingers). Froments sign will be positive with weakness of thumb adduction as well as weakness of finger abduction, FCU.
- Communicate findings and plan
 - Elbow dislocation, now reduced
 - Xray required (confirm correct relocation, look for associated #)
 - Ulnar nerve neuropraxia – should recover with time
 - Further management
 - Conservative
 - Short period of immobilization (e.g. POP back slab 1-2 week max) traditional approach. NOT FULL CYLINDER POP
 - Recent studies suggest early mobilisation may improve outcomes
 - Formal review in view of neuropraxia

This OSCE will assess the following domain:

- Medical Expertise

Examiner Mark Sheet

CONFIDENTIAL Examiner Rating: OSCE 10



EXAMINER 1
barcode

CANDIDATE barcode

EXAMINER 2
barcode

COMPONENT ASSESSMENT

For each Domain below, select the **ONE** option that best represents the candidate's level of performance. The option "**Minimum level of competency displayed**" represents the level of safe independent practice as a **Junior FACEM** in Australasia.

Very poor
level of
competence
displayed

Well below
minimum
level of
competence
displayed

Below
minimum
level of
competence
displayed

Minimum
level of
competence
displayed

Above
minimum
level of
competence
displayed

High level of
competence
displayed

Very high
level of
competence
displayed

Please rate **ALL** the following domains:

Medical Expertise

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Detailed assessment criteria

Please use the following criteria to inform your ratings above

Medical Expertise

- History: Confirms likely dislocation and reduction
- Orthopaedic examination
 - Confirmation of relocation: epicondyle – olecranon equilateral triangle
 - Exclude other orthopaedic injuries (forearm, wrist, hand)
- Vascular examination: Capillary refill, warmth/colour, **radial pulse**
- Neurological examination
 - Ulnar nerve: Sensation (**med 1.5 fingers**), Motor (**thumb adduction, Froments sign, finger add/abduction, FCU**) 1 of motor. Diagnosis of **sensory and motor neuropraxia**
 - Radial: Sensation (**dorsum base thumb**). Motor (**Wrist extension or thumb extension**)
 - Median: Sensation (**palm, lateral 3.5 fingers**). Motor (**Thumb abduction/IP flexion = FPL/ opposition**) 1 of motor
- Further management
 - **Xray** (confirm correct joint relocation, look for associated fractures of coronoid process, radial head, capitellum and olecranon)
 - Short term Immobilization (POP slab, sling for 1-2 weeks, **FULL CYLINDER POP CONTRAINDICATED**)
 - Analgesia/ Ice
 - Awareness of need for **early mobilization** 1-2 weeks
 - **Neuropraxia expected resolution**
- Orthopaedic/ physiotherapy follow up



Examiner Mark Sheet (cont')

CONFIDENTIAL Examiner Rating: OSCE 10



INFORMATION

Station Summary: Examination of upper limb of patient who has had a spontaneous reduction of an elbow dislocation. Ongoing ulnar sensory neuropraxia. Orthopaedic, vascular, neurological examination.

EXAMINER NOTES (For examiner reference only)

OSCE 'incident reporting' notes: Please provide details if an issue occurs which may influence this candidate's exam outcome e.g. protocol breach, candidate illness etc.

GLOBAL RATING FOR STANDARD SETTING:

This scale is used in the standard setting process for the OSCE. Please rate the candidate's OVERALL performance in this OSCE. The rating should take into account the entirety of the OSCE, rather than just a sum or average of the individual domain scores. This element MUST be completed for the standard of the examination to be set.

	Well Below Standard	Below Standard	Just at Standard	Above Standard	Well Above Standard
In terms of a safely practising junior emergency physician, select the ONE option that best reflects the candidate's performance in this station:	☐	☐	☐	☐	☐

EXAMINER SIGNATURE:



OSCE 1