

OSCE 5

Candidate Instructions

This is a **7 minute** Standardised Case-Based Discussion (SCBD) station.

You will be interacting directly with an examiner. You will be asked to outline your assessment and management to the following clinical situation. Further information will be provided as the case evolves. The examiner will be assessing your medical knowledge, as well as the reasoning and rationale to your approach and decisions.

Please be as specific as possible when answering. You are an emergency consultant in a tertiary level hospital. For example, when discussing drugs describe doses, when discussing investigation or management provide reasons why you chose that approach.

Case Information:

Amanda is a 22 year old woman who was referred by her GP with supra-therapeutic ingestion of paracetamol. She has been taking 6 grams of paracetamol each day for the last 4 days for a headache. The most recent dose was 1 gram 6 hours ago. She is currently pregnant with her first child (34 weeks gestation).

Past history:

Anxiety

Meds:

Multi-vitamin (pregnancy)

Her initial observations on arrival to hospital:

HR 100 bpm

BP 150/95 mmHg

RR 18 /min

SaO₂ 99 % (room air)

Temp 37.2 deg C

GCS 15

The patient has been placed in a cubicle. A nurse has attempted to take blood but the patient is refusing all treatment.

Your tasks are to:

- Describe your approach to this situation

This OSCE will assess the following domains:

- Medical Expertise – 50%
- Prioritisation and Decision-making – 30%
- Professionalism – 20%

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Examination findings:

GCS 15

BP 160/100 mmHg

HR 100 bpm

RR 18/min

Sats 99% room air

Oedema to feet and ankles bilaterally

Normal reflexes and tone.

Pregnant abdomen, appropriate size for gestation. Non-tender.

Urinalysis – protein 3+, no leucs or nitrites or blood

All other exam nad

Blood results:

Hb	105 g/L	(115 – 155)
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MCV	85 fL	(80-99)
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WCC	10.1 x 10 ⁹ /L	(4 – 12)
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Plt	120 x 10 ⁹ /L	(150 – 400)
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INR 1.0

ALP	50 IU/L	(30 – 300)
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Bili	12µmol/L	(3 – 17)
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ALT	65 IU/L	(5 – 35)
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GGT	20 IU/L	(11 – 51)
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Alb	40 g/L	(35 – 50)
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UEC – within normal range

Paracetamol 280 µmol/L

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Examiner Instructions

This is an SCBD involving the ED management of a patient with paracetamol overdose and pre-eclampsia who is refusing treatment.

The OSCE assesses the candidate's ability to:

- Manage supratherapeutic paracetamol ingestion
- Manage a patient who wishes to DAMA
- Understand the indications to hold a patient in the ED involuntarily
- Manage eclamptic seizure

The questions are standardised for this SCBD. They are to be delivered in the same manner to all candidates. If a candidate's response lacks clarity– then the lead examiner may probe further or ask the candidate to justify their decision making process.

Lead Examiner Script

Section 1: Initial management

“Please describe your approach to this situation”

Expected response:

Key issues:

- Toxic dose of paracetamol ingested, requiring administration of NAC to prevent significant hepatotoxicity
- DAMA – requires urgent assessment of patients' decision-making capacity
- Hypertension and headache suggests pre-eclampsia

Approach

- Immediately attend cubicle to talk to Amanda
- Assessment of DMC – confirm cognitively intact/not confused or intoxicated.
- A person has decision making capacity if able to:
 - understand the information relevant to the decision and the effect of the decision
 - retain that information to make decision
 - use or weigh that information to make the decision and
 - communicate the decision
- Try to convince her to stay for treatment:

- Establish rapport, explore the reasons she wants to leave
- Involve family/friends if present
- Explain consequences of not having NAC – risk hepatotoxicity to herself and fetus
- Concern re hypertension and headache – requires further Ax for pre-eclampsia
- Reassure her of safety of NAC in pregnancy
- Negotiation – wanting to go outside?

Assessment

- History – antenatal care, known hypertension, symptoms of pre-eclampsia (visual disturbance, vomiting, epigastric pain, oedema, weight gain), symptoms of hepatotoxicity (RUQ pain, nausea, vomiting), risk factor for pre-eclampsia (multiple preg, FHx, Is first pregnancy, other-obesity/renal dis/HT/DM/autoimmune dis)
- Examination – BP, oedema (face, hands, feet), urinalysis (protein), abdomen-obstetric and hepatic, neuro-clonus & hypertonia, features of thrombocytopenia or DIC
- Investigations – FBE (plt, haemolysis), UEC (esp. renal function), uric acid, LFT, paracetamol level, coag, CTG

Prompt (if the above is not adequately explored by the candidate):

When is it acceptable to actively prevent a patient from discharging herself from the ED?

What techniques would you use to try to prevent this patient from leaving the ED?

What assessment (Hx, Ex, Ix) would you perform?

Section 2 – Management

“Following your conversation, she agrees to stay. These are her exam findings and blood results” – show results page.

“What are your priorities for this patient’s management? Please explain why.”

Key priorities:

- Treat the paracetamol toxicity – NAC, tox referral, supportive – IVF, antiemetic
- Recognise this meets definition for pre-eclampsia - Treat hypertension, check baby
- Refer to Obs for management of pre-eclampsia.
- Keep patient informed
- Safe disposition

Treat hypertension

- Aim for target eg 140/90. Don’t want to lower too much (negative effect on placental perfusion)
- Refer to local guidelines e.g. RWH, RANZCOG.
- Options: methyldopa, labetalol, hydralazine
- Prophylaxis with magnesium sulphate only indicated if signs of imminent eclampsia (hyperreflexia, clonus, visual changes, severe HT, thrombocytopaenia) – if candidate mentions, must justify

Treat paracetamol poisoning

- Nomogram not useful
- NAC indicated for any of ALT >50; paracetamol >66, (dose 6g/24hrs for >48hrs)
- Commence NAC – 2 bag regimen: 200mg/kg in 500mL NaCl over 4hrs, followed by 100mg/kg in NaCl 1000mL over 16 hrs
- Re-check paracetamol and ALT 12 hours post commencement of infusion
- Continue NAC until ALT trending down and paracetamol <120 micromol/L
- Monitor for adverse reactions
- Tox consult

Supportive

- Anti-emetic
- IVF – administer cautiously (risk APO, cerebral oedema)
- Strict fluid balance chart
- IDC
- CTG

Disposition

- Admit Obstetric team with tox consult
- Don't need to expedite birth if BP controlled and no concerns for fetal wellbeing

Section 3 – Seizure management

The cubicle alarm is activated and you arrive to find her having a generalised tonic-clonic seizure. Describe your management.

Vitals if asked:

HR 130/min

BP 160/100 mmHg

RR 12/min

SpO2 94% room air

Candidate should outline:

- Airway support, oxygen, monitoring
- Left lateral/R hip wedge
- Seizure control – Mg SO4 – 4g IV over 15 mins plus infusion (5 mmol/hr). Phenytoin second line.
- BP control – hydralazine
- Urgent Obstetric consultant review
- Expedite transfer to theatre for delivery
- ICU post-op

Marking domains:

Medical Expertise: Assessment and management – 60%

- Seeks evidence of time critical diagnoses when performing assessment
- Identifies risks of deterioration in the patient
- Creates a focused investigation plan that confirms or excludes time critical diagnoses
- Correctly interprets the results of an investigation within the scenario.
- Correctly chooses time critical interventions based on assessment
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Prioritisation and Decision Making – 20%

- Prioritises a differential diagnosis list to determine the most likely diagnoses in a patient
- Highlights high-risk features identified during initial patient assessment
- Summarises and prioritises the key issues that must be addressed during and following the emergency encounter
- Prioritises essential components of ongoing care
- Provides a rationale to explain and justify decisions about ongoing treatment.

Professionalism – 20%

- Describes how medico-legal principles are applied in this situation i.e. assessment of capacity to make decisions.
- Balances respect for patient autonomy with best clinical practice in patient encounter