

SCENARIO

You are the consultant in charge of the ED; it is 2030hrs on a Friday. Your registrar Dr John Smith seeks your assistance re Thomas Brown, a 4-year old boy. Assessment is summarised:

- **History:** 3 days of fever and vomiting. Thomas had 2 days of oral amoxycillin by his GP, but symptoms have worsened today. He is a usually healthy, vaccinated child who takes no regular medications.
- **Examination:** Looks moderately unwell, with a temperature of 39⁵ degC. No clear clinical focus of infection.
- **Investigations:** CXR and urinalysis are unrevealing, as are full blood tests, coagulation profile and urea/electrolytes. Blood glucose is 5.0 mmol/L (normal). CRP is elevated, at 120 IU/L (< 5).

Dr Smith regards a lumbar puncture (LP) necessary, as part of Thomas' septic work-up. Partially treated meningitis is a differential diagnosis. He plans to administer empiric broad-spectrum antibiotics, ideally after the procedure. Thomas has no neurological or other features that contraindicate an LP. Thomas' mother, Mrs Jenny Brown, has refused an LP for Thomas, despite Dr Smith's explanation of the above. She states she is concerned about the adverse impact of this procedure on her son. Dr Smith has not provided detailed information about an LP. He requests that you discuss this situation with Jenny.

You concur with Dr Smith's assessment, including the need for LP. You will enter the examination room to meet Jenny. She knows that you will be coming to talk with her. Dr Smith will NOT be present.

NB: Examiners will be present in the room, but they will NOT interact with you during the SCE, beyond introductions.

1. Lead examiner.....

2. Co-examiner.....

Candidate Number:

SCENARIO: Communication / Refusal of LP for Child

KEY ASSESSMENT FEATURES	Core Competencies of Communicator: - <i>Rapport, Trust and Ethical Therapeutic Relationships</i> - <i>Elicit and Synthesize relevant information and perspectives of patients</i> - <i>Convey relevant information and explanations</i> - <i>Develop a common understanding of issues, problems and plans</i> - <i>Convey effective oral (and written) information about an encounter</i> Non verbal communication Appropriate use of demeanour, language and words
Candidate should demonstrate capacity to:	Identify and explore issues, including the mother's reasons for refusal / preferences: Fear, Anxiety, Anger, Frustration, Ignorance, Prejudices Inform patient to facilitate appropriate consent for procedure (tailored to mother's demographic, cultural and intellectual context) Seek and integrate relevant information Problem-solve Implement an effective plan from collaboration with mother

Initial Contact / Introduction

PATIENT / PROMPT	Details & Comments	Score
Introduction	Name Title / position	
Overall Objectives	• Provide proper information / communication about reasons for, and risks of LP for child; incl risks of refusing it • Address mother's concerns and queries • Allay her concerns sufficiently for her to make an informed decision • Explore all options for investigating child's illness	
Open the discussion with patient	Broach subject at hand Explanation eg Dr Smith's communication with you / your goals of communication with patient	
Seek patient's view	Allow mother to speak / seek views	
If LP not raised by candidate: PROMPT: I just don't want Thomas to have a lumbar puncture	Variety of approaches acceptable	

Address Concerns / Answer Questions re LP

PATIENT / PROMPT	Details & Comments	Score
Candidate may raise issue of reasons for refusal or patient will prompt	Candidate should allow or inquire as to reasons for refusal of LP Candidate should address issues raised by patient	
<i>That sounds like it would be painful</i>	Reassurance / Explanation / Address concerns Highlight differences between child and adult Provide information about analgesia - methods for minimising procedural distress eg LA / sedation options	
<i>And I am scared about the risks of a lumbar puncture.</i> <i>What can go wrong?</i>	Explanation / appropriate empathy Safe procedure Pain - above Infection – less than 0.5% with sterile technique Post LP headache – approx 30% risk, reduced with small gauge pencil point needle Other complications rare (<0.5%) eg haematoma abscess, nerve root injury	
<i>Will the lumbar puncture definitely rule out meningitis?</i>	Reassurance +/- possible limitations eg failure, false negative, but emp Abx anyway Variety of approaches	

Options / Risk of Refusal

PATIENT / PROMPT	Details & Comments	
<i>Is there any other test we can do?</i>	Septic screen in conjunction with LP, incl CXR, BC	
<i>And if the lumbar puncture confirms meningitis?</i>		
<i>(For better candidates.)</i> <i>Can't you just treat Thomas with antibiotics?</i>	Needs adequate explanation in terms comprehensible to mother Explanation of meningitis / serious bacterial illness	

Total Mark:

ACTOR feedback:

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

SCENARIO

You are the consultant in charge of the ED. Your registrar, Dr John Smith, seeks your assistance re Thomas Brown, a 4-year old boy. Assessment is summarised:

- **History:** 3 days of fever, vomiting and headache. Thomas had 2 days of oral amoxycillin (by his GP), but symptoms have worsened today. He is a usually healthy, vaccinated child who takes no regular medications.
- **Examination:** Looks moderately unwell
 - T 39.5°C, with no clear clinical focus of infection.
- **Investigations:**
 - CXR, urinalysis, FBC, coagulation profile, urea/electrolytes and blood glucose are normal.
 - CRP 120 IU/L (< 5 IU/L).

Partially treated meningitis is the concerning differential diagnosis and a lumbar puncture (LP) is considered necessary. Thomas has no contra-indications to an LP. Thomas' mother, Mrs Jenny Brown, has refused an LP for Thomas. Dr Smith has not provided detailed information about an LP. He requests that you discuss this situation with Jenny.

You concur with Dr Smith's assessment, including the need for LP. You will enter the examination room to meet Jenny. She knows that you will be coming to talk with her. Dr Smith will NOT be present.

NB: Examiners will be present in the room, but they will NOT interact with you during the SCE.

Background Information for Actor

It is now 2030hrs on a Friday. You are a 37 year-old legal secretary, married to John. Thomas is your only child. He is a normal, happy, healthy child who attends kindergarten 3 days per week. He has no usual medications, and has no drug allergies. Your family is stable and happy.

Thomas has been ill for 3 days, with high fevers and vomiting, preceded by runny nose and cough. Your GP prescribed oral amoxicillin (an antibiotic) for Thomas. He has taken 2 days' of this medicine. Earlier the same evening, Thomas appeared worse, with a fever unresponsive to Panadol. He vomited despite missing his dinner. Concerned about Thomas' condition, you brought him to the Emergency Department (ED). Thomas was seen by Dr John Smith promptly after your arrival.

Dr Smith assessed Thomas and undertook some blood tests and a chest x-ray, which he reported were normal. He expressed some concern about meningitis, suggesting a lumbar puncture (LP) be performed on Thomas, prior to stronger intravenous (IV) antibiotic therapy. This worries you, as you've heard bad stories about LP. You are afraid that it will be it very painful. Moreover, you are unsure of other risks from the procedure.

Dr Smith seems a competent doctor, but is unable to allay your concerns about the LP. Other than your rising anxiety about Thomas' illness and the LP, you are now annoyed by his insistence about the latter. You just want Thomas to have the IV antibiotics, without this particular procedure.

Facts About the Case

Antibiotics are indicated for Thomas, and should not be delayed. However, a lumbar puncture (best done before the first dose) represents ideal practice, because it permits directed antibiotic therapy for Thomas. That is, it will help determine if the prescribed antibiotics are the correct agent for this infection. Potential advantages gained are more rapid recovery, less side effects from broad-spectrum agents and reduction in incidence of resistant infective organisms in future cases.

The candidate's task is to explain this to Jenny in an effective, sensitive way. This should allay her anxieties and empower her to make an informed choice re consenting for this procedure. That said, this procedure is not mandatory and should not be an absolute prerequisite for antibiotic therapy. The candidate should also discuss with Jenny alternative options to a lumbar puncture, given her understandable concerns about it.

SCENARIO

A 72 year old man who lives alone is brought to your department by Ambulance after a collapse while shopping. He has no apparent immediate family. On arrival he is awake but unable to speak, with marked right sided weakness.

Question 1:

What are the clinical criteria for thrombolysis in this patient?

1. Lead examiner

Candidate Number:

2. Co-examiner.....

Final Mark:

SCENARIO

A 72 year-old man is brought to your emergency department by ambulance after a collapse while shopping. He lives alone, and has no immediate family. On arrival he is awake but unable to speak, with marked right hemiparesis. You suspect an acute stroke.

Question 1: What are the clinical criteria for thrombolysis in this patient? (1.5 minute)

Expected Response	Details & Comments	
Confirmation of likely ischaemic stroke lesion eligible for lysis <i>Prompt "what factors would influence your decision to thrombolys or not"</i>	• Presentation c/w acute ischaemic stroke with deficit appropriate for thrombolysis: Measurable and clinically significant deficit which is not rapidly improving (severe stroke with coma also not appropriate) • No acute lesion(s) on CT brain, including demonstrable significant acute ischaemic lesion. • Exclude important differentials: haemorrhagic stroke, SOL excluded with CT head, seizure, migraine, hypo/hyperglycaemia etc. • Appropriate timeframe: evidence for benefit suggests time to lysis < 3hrs, now being extended up to 4.5 hrs. Need collateral history to confirm. • Exclude contraindications(expect at least 3): hypertension SBP > 185/110, possible SAH, bleeding diathesis, anticoagulation, prior haemorrhagic CVA, recent ischaemic CVA, recent head trauma, active bleeding, other bleeding risks. Likely difficult/impossible in this patient.	

Question 2. What problems may arise in consenting this patient for thrombolysis? (2.5 minutes)

Expected Response	Details & Comments	
Components of valid consent:	Informed, specific, freely given, given by competent, appropriate person(s)	
Informed: Competence uncertain Expressive Aphasia ?receptive component <i>Prompt "is there anything relevant to informed consent that may be difficult in this patient?"</i>	In order to give consent patient must be able to understand the pros and cons of treatment to make an informed choice . If receptive aphasia then can not ensure understanding. If expressive dysphasia may be difficult to ensure that he is expressing his wishes correctly. (Accept concept of speech impairment affecting communication) May be difficult to exclude contraindications	
Appropriate consenters(s) <i>Prompt: "If he is not able to consent what are your options?"</i>	Substitute decision makers if patient deemed incompetent: No apparent next of kin. ? Established medical power of attorney. Possible resort to statutory health authority.	
<i>Prompt: "What is implied consent"</i>	Implied consent? Applies if treatment is potentially life/ limb saving, is a standard of care, benefits likely outweigh risks. ie. Treatment a reasonable person would consent to. Depends on physician assessment of benefits vs risks. Needs physician with expertise in assessing degree of deficit (NIH Stroke Scale) + thrombolysis indications/contraindications + consenting process	
Freely given: Physician bias: potential coercion in either direction.	Thrombolysis for stroke remains controversial in ED community but is perceived as a standard of care in National stroke guidelines (Grade A recommendation for those meeting inclusion/exclusion criteria) associated with potentially improved outcomes. 1-2 % risk of intra-cerebral bleed with potentially devastating consequences. Controversy: Benefits vs risks in ED community. Thus ED physician may not be 'comfortable' with consenting patient. Conversely, stroke physician more likely to favour thrombolysis.	

Question 3: The patient was thrombolysed in ED after review by the on-call Neurologist. Soon after, his GCS drops to 7. Repeat CT shows a large, inoperable intracranial haemorrhage. The Neurologist suggests immediate intubation and reversal of anticoagulation in ED.

How would you approach this situation? (2 mins)

Expected Response	Details & Comments	
Summary Prompt: "Do you consider this treatment is indicated?" if proceeds to intervene OR "How would you communicate that to the neurologist?" (if refuses request outright)	ICH complicating thrombolysis. Poor prognosis with high chance of death. Need to make appropriate decisions re medical/end of life care – medical futility – potentially more difficult if iatrogenic + patient wishes unknown. Disagreement re extent of care with Neurologist.	
Medical obligations	In presence of likely fatal ICH no obligation to provide aggressive care as not generally required as part of 'good medical treatment' (<i>not strictly true in all Aust jurisdictions but is a strong principle</i>)	
Wishes of patient	In absence of Next of Kin/ AHD etc then not able to confirm wishes. Patient wishes not necessarily primary. As a general rule physicians can not be forced to institute inappropriate treatment	
Conflict resolution Prompt: "How would you deal with the disagreement with the neurologist"	Shared responsibility for patient. ?Neurologist feeling responsible for iatrogenic harm thus recommending aggressive treatment. Negotiate medically appropriate management and mutually satisfactory professional outcome. Require one reasonable approach to the conflict resolution Further discussion with Neurologist re situation, likely poor outcome. Consult/ 2 nd opinion from Haematologist + ICU physician as required. Consensus approach.	

Question 4: The patient dies in ED. Outline the subsequent tasks that need to be carried out.

Expected Response	Details & Comments	
Locate NOK	Next of Kin need to be located and notified. LMO notified Open disclosure , apology for outcome, grief counselling	
Documentation	Comprehensive, contemporaneous	
Notification	Incident report Registry input Coroner?	
Staff management	Debrief and counselling	
QI opportunities	Review systems flaws / errors, Morbidity meetings/ case discussion with Neurology	

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

SCENARIO

A 64 yr old man with no significant co-morbidities is brought in by ambulance following a collapse at home. He denies chest pain, shortness of breath or palpitations but had been experiencing rigors earlier in the afternoon. This is on a background of abdominal pain for 3 days.

His vital signs are:

GCS 15 Pulse 110 BP 90/55 mmHg

RR 26 SpO₂ 97% (O₂ 6 LPM Hudson mask)

Temperature 37.4

Question 1: This is his Venous Blood Gas on O₂ via Hudson mask at 6 litres per minute. Describe and Interpret.

pH	7.08		[7.35 - 7.45]
pCO ₂	25	mmHg	[37 - 50]
pO ₂	58	mmHg	[36 - 44]
Bicarbonate	12	mmol/L	[21 - 28]
Base excess	- 11	mmol/L	[-3 – 3]
O ₂ saturation	78	%	[70 - 80]
Na	142	mmol/L	[134 -146]
K	4.3	mmol/L	[3.4 – 5.0]
Chloride	108	mmol/L	[98 - 108]
Creatinine	387	umol/L	[45 - 90]
Glucose	7.1	mmol/L	[3.0 – 5.4]
Lactate	6.8	mmol/L	[< 2]
Haemoglobin	110	g/L	[135 - 180]

1. Lead examiner

Candidate Number:

2. Co-examiner

TOTAL MARK:

SCENARIO

A 64 year-old man with no significant co-morbidities is brought in by ambulance following a collapse at home. He denies chest pain, dyspnoea or palpitations but had abdominal pain for 3 days, with rigors earlier today. His vital signs are: GCS 15, Pulse 110, BP 90/55, resp rate 26, O₂sat 97% on 6L via Hudson Mask, temperature 38.4 degC.

Question 1: This is his Venous Blood Gas on O₂ via Hudson mask at 6 litres per minute. Describe and interpret:

pH	7.08	[7.35 - 7.45]	Na	142	mmol/L	[134 - 146]
pCO ₂	25	mmHg	K	4.3	mmol/L	[3.4 - 5.0]
pO ₂	58	mmHg	Chloride	108	mmol/L	[98 - 108]
Bicarbonate	12	mmol/L	Creatinine	387	mcmol/L	[45 - 90]
Base excess	- 11	mmol/L	Glucose	7.1	mmol/L	[3.0 - 5.4]
Lactate	6.8	mmol/L				
Haemoglobin	110	g/L				

Expected Response	Details & Comments	
Findings	Severe metabolic acidosis with compensatory respiratory alkalosis [expected pCO ₂ = (1.5 x HCO ₃) + 8 = 24] Raised anion gap Na – (HCO ₃ + Cl) = 22 Raised Creatinine – indicates renal impairment (acute v chronic) Significantly raised lactate Mild anaemia Mild hyperglycaemia	
Relevant negatives	Normal electrolytes No urea given, but expect it to be high, with high urea:creat ratio Cannot comment on oxygen tension	
Interpretation	Significant High Anion Gap Metabolic Acidosis with appropriate respiratory compensation. No other significant acid base disturbance Consistent with lactic acidosis due to severe sepsis and renal impairment Consider other causes of HAGMA - Ingestions (eg salicylates, iron) - Renal Failure - Other causes lactic acidosis - Ketosis (alcoholic) Candidate should be able to give differential for HAGMA on pathological basis for <u>this patient</u> , in preference to listing a generic mnemonic	

Question 2: You diagnose intra-abdominal sepsis. His blood pressure is now 85/45 mmHg. What are your management priorities?

General	Patient is in septic shock Resuscitation should follow principles outlined in surviving sepsis guidelines	
Fluid Resuscitation	Early iv fluid administration 10-20 mL/kg crystalloid and reassess Focus on the first 6 hours with specific haemodynamic goals Targets as per Surviving Sepsis guidelines - CVP 8-12 mmHg, MAP >65 mmHg, urine output >0.5mL/kg/hr	
Treatment of sepsis	Seeking source of infection – septic screen + abdominal imaging (CT, but caution re radiocontrast, given renal impairment) Blood cultures prior to antibiotics Urgent general surgery consult in view of abdominal pain Early broad-spectrum empiric iv antibiotic (e.g. tazocin 4.5g). Meropenem if severe penicillin sensitivity	
Haemodynamic support	Candidate should specify and justify fluid and pressor choices, doses / volumes, rates, target parameters and potential complications IV crystalloid (colloid of no additional benefit). 1 to 2 L rapid infusion, aiming for MAP ≥ 70mmHg and UO >30ml/hr. Invasive monitoring arterial line, central line Repeat fluid challenge as long as there is improvement. Large volume of fluid may be required (amount controversial). Be wary of clinical features fluid overload. Use vasopressor (noradrenaline 1st line) if MAP <65 despite fluids.	

Other	Blood products – only if Hb <70 g/L FFP – only if bleeding Steroids – if requiring ongoing fluids and vasopressors	
Disposition	Operating theatre for laparotomy if intra-abdominal source suspected/confirmed Notify ICU	

Question 3: Outline options for vascular access site for vasopressor administration in this patient. Justify your choice.

Expected Response	Details & Comments	
	The candidate may choose to describe one or more methods of vascular access. Any reasonable option is satisfactory as long as they explain and justify their choice. Options may include:	
Peripheral IVC	Provided it is placed in a larger vessel, May be appropriate in short term to run peripheral vasopressors. Not suitable for ongoing treatment post ED	
PICC line	Can be placed via existing peripheral access, Relatively straight forward to insert, Probably less time consuming than central line Lower risk of complications compared to CVC, Can still measure CVP Can remain in situ longer term	
Internal Jugular vein CVC	Relatively superficial large vessel compressible site Lower infection risk than femoral line, CVP measurement Risk of carotid puncture, Needs a compliant patient, trendelenburg position Can be difficult if hypovolaemic collapsing vessel, anatomical variants Use of ultrasound guidance improves success	
Subclavian vein CVC	More accessible than the neck, More reliable anatomy, Less likely to collapse CVP measurement, Non compressible site due to overlying bone Risk of pneumothorax and subclavian artery puncture Ultrasound guidance can be used	
Femoral vein CVC	More reliable anatomy, More accessible body region, Compressible site, No risk of pneumothorax, More suitable in non compliant patient Not as suitable in this patient with abdominal sepsis – risk of abdominal compartment syndrome Risk higher for infection, femoral artery puncture, retroperitoneal haematoma	

Question 4: The patient had presented 24 hours earlier, feeling lightheaded and unwell. He had been seen and discharged by an intern. No investigations had been performed. What factors may have contributed to this event?

Expected Response	Details & Comments	
Issues	Potentially a critical incident Initial management / disposition may not have been appropriate Patient, doctor and system issues may need to be addressed	
Patient factors	May have presented early in course of illness Symptoms and signs on initial presentation may not have warranted further investigation Absence of underlying co-morbidities may have lowered suspicion of serious illness	
Doctor factors	Was adequate assessment performed? Were signs present but incorrectly interpreted? Is doctor skilled enough to see patients independently? Should senior input have been sought?	
System factors	Appropriate triage assessment Policy for senior review of all intern patients Adequate level of staffing to provide supervision Department load at time of presentation Opportunity for education, M&M review etc	

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

SCENARIO

Question 1:

A nine year old boy was walking barefoot in the school playground and felt a sharp pain in his foot. He has been brought in by his mother from school.

He has a small puncture mark on the sole of his left foot.

Outline your assessment.

1. Lead examiner

Candidate Number:

2. Co-examiner

Final Mark:

SCENARIO

A nine year-old boy was walking barefoot in the school playground and felt a sharp pain in his left foot. He has a small, painful puncture mark on the sole of his left foot. There are no other injuries, and he reports no other symptoms. He was brought in by his mother from school, and brought to your ED.

Question 1: Outline your assessment.**1.5 minutes**

Expected Response	Details & Comments	Bold
Differential diagnosis	Puncture wound, with or without foreign body . Needle Stick/glass etc. Bite - snake, spider, with or without envenomation. Lack of other symptoms is reassuring, esp if no first aid applied	2 Examples of FB
History	Incident: Time, circumstances , location. First aid if any. Local site: Did he see anything? Did he remove anything? Any broken glass/wire wood/nails/needle etc Systemic features: Vomiting, abdo pain. Weakness, diplopia, slurred speech. Features of envenomation: Bleeding/ooze. Local sweating/piloerection/severe local pain.	Key is candidate demonstrates wide ranging and justified assessment
Past Hx	Esp tetanus status, fasting status, allergies ? Special needs child: developmental delay, cognitive impairment, DM.	
Examination	General appearance . Vital signs. Tachycardia, tachypnoea would be of concern. Hypotension and fever not expected, but would be really worrying if present! Local : Palpable FB? Excessive tenderness at site may suggest FB. Regional: Lymphadenopathy, neurovascular assessment. Signs of envenomation: Local piloerection/sweating, excessive wound bleeding, neurological deficits: diplopia, focal weakness.	
Investigations	Depends on likely cause - Snake bite- FBC, Coags, UEC, CK, bite site swab and VDK Imaging - FB? X ray or soft tissue ultrasound.	

Question 2: X ray confirms a glass fragment 8 mm long x 3 mm wide within the soft tissues of the sole of the foot. Outline the treatment issues in this situation?**1.5 minutes**

Expected Response	Details & Comments	
Analgesia options	Oral/IN/IV/other. Reassurance/Mother present	
Shared decision making	Inform mother, permit her choice of option. 9yo may not be cooperative, especially for painful procedure	
Remove in OT, or ED?	If ED option expected to be difficult and prolonged, OT may be better option. Depends on surgical availability. Or may choose to leave alone for 1 week to allow development of abscess, for easy later removal.	
Anaesthetic options	Local or regional anaesthetic, Sedation, GA	Must cover range
Surgical procedure- likely difficult	Locate FB with x ray or US, but often difficult to find. Prolonged, potentially difficult procedure . Bleeding may be a problem.	
Tetanus	Tetanus prone wound, but low risk if vaccinations up to date.	
Fasting	At school, in playground, probably not fasted.	
Antibiotics?	May have a role if dirty wound/dirty fragment, or delayed presentation.	

Question 3: It is decided to attempt removal in ED. Discuss your anaesthetic options for this child.**2 minutes**

Expected Response	Details & Comments	
General considerations	Efficacy, safety , rapidity of onset, child's cooperation , parental choice , expectations. Resources - Availability of equipment, trained staff, time, ED space.	Must discuss procedural sedation plus 2 others
Local anaesthetic Infiltration...	Pros- Quick, may be effective, will allow removal of FB, Not resource intent. Adjunct to sedation etc. With adrenaline decreases bleeding. Long acting-post procedure analgesia. Cons- Very painful, especially in the foot, Unlikely to be an option in a 9 year old, Toxicity if high vol LA should not be used alone	
With N2O/O2	Pros- Nitrous will provide reasonable analgesia to allow infiltration of local anaesthetic, Quick, easy, a 9 year old will be able you use the machine easily, may be sufficient Cons- Not complete analgesia for a very painful procedure. Need extra personnel.	
With IV opiates	Quick, easy, but needs IV access. Time to allow use of EMLA cream Cons –limited efficacy for very painful possibly prolonged procedure	
Procedural sedation	Likely to be best option, depending on staffing and resources. Provides most likelihood of successful removal of FB in ED. Con- Fasting. Resource intensive. Increased pt risk. May need IV	
Regional e.g. Ankle block/Bier's	Ankle block is much less painful (LA) but technically more difficult and less reliable. Biers- unfeasible in 9yo.	
Topical LA	Unlikely to be helpful	

Question 4: You opt for IV procedural sedation to remove the glass. Describe how you would do this.**2 minutes**

Expected Response	Details & Comments	
Preparation	Staffing - minimum three staff; procedure doctor, sedation doctor (with airway competence) nurse	
	Monitoring - full non-invasive monitoring, especially SpO2 and ET CO2.	
	Equipment - All age appropriate airway equipment and drugs immediately to hand Suitable site according to local protocols eg: resus bay, procedure room, Adequate lighting and space. Establish IV access	
Consent and explanation	Informed consent from mother, mother to stay with child during procedure Explanation to and reassurance of child .	
Fasting	Not urgent, procedure can be delayed	
Sedation	Probably ketamine rather than propofol, as likely to be somewhat prolonged procedure IV ketamine, 0.5 mg/kg given slowly over minutes, titrated to effect. Alternatives: propofol, fentanyl, ketofol, midazolam. [Candidate should demonstrate familiarity with THEIR choice(s), including adverse effects.]	
Surgical procedure [Prompt- How would you remove the glass?]	Lighting, positioning, sterile conditions. Local infiltration of lignocaine 1% with adrenaline, around site of puncture wound and expected site of FB. Small incision over expected site, localise FB e.g. USS/XRAY/palpation. Bleeding control- tourniquet/LA & adrenaline. Remove FB (May not be successful). Wash out wound. May need sutures to wound, or tissue adhesive. Dressing	Must describe safe approach
Post sedation care	Observation until fully awake, eating, drinking. Then home with mum.	
Discharge instructions	Analgesia, wound care, crutches. Follow up. If used-removal of sutures- 10/7 by LMO Explain when to return e.g. signs of infection, pain, concern re retained FB	

Comments: (if you fail the candidate, please state why)**If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?**

SCENARIO

Question 1:

A 25 year old woman who is two weeks postpartum is brought to the ED by her partner after a witnessed ingestion of iron tablets.

Her vital signs are:

HR	100	/minute
BP	110/70	
Sats	96	% room air

Outline your initial assessment

1. Lead examiner

Candidate Number:

2. Co-examiner

Final Mark:

SCENARIO

A 25 year-old woman who is two weeks post-partum is brought to the ED by her partner after a witnessed ingestion of iron tablets. Her vital signs are: HR 100/minute, BP 110/70, sats 96% room air.

Question 1: Outline your initial assessment.*(included in stem)***2.5min**

Expected Response	Details & Comments	
Aims of assessment PROMPT: What are the aims of your assessment?	- Risk assessment re DSP iron toxicity - Mental Health risk assessment re Post natal depression/psychosis etc - Risk assessment re domestic violence - Baby safety	
History	Ingestion: Dosing, time. ?Elemental iron, ?SR formulation, coingestants (like EtOH)?. DSP intent / context. If >60mg/kg Fe, systemic toxicity anticipated. PHx of self harm attempts. Mental health Hx. Hx of recent childbirth. Possible complications. Social / domestic: sleeplessness and stress are expected, but assess coping resources, supports, partner conflict.	
Exam-Specific signs/Sx Fe toxicity	V&D, GI bleeding, abdo pain, systemic toxicity, tachypnoea, HD instability- Likely to be late onset- 4 hours Mental state examination / affect / DV	
Mental health risk assessment	?Post natal depression, ?psychosis, ?domestic violence Context of deliberate ingestion	
Investigations PROMPT: What are you looking for with investigations?	Bloods- BSL, ABG (HAGMA as an indicator of systemic toxicity), Fe level , lactate, Gp & Hold, FBC (possible leukocytosis), EUC (low bicarb and renal impairment would be worrying. Paracetamol level. AXR looking for tablets - assists with risk assessment ECG -for coingestants	

Question 2: She admits to ingesting over 60 ferrous sulphate tablets. Abdominal x-ray shows a large number of radio-opaque tablets in the stomach and upper GIT. Describe your ongoing management.

2.5min

Expected Response	Details & Comments	
Overview	High risk poisoning. <i>Candidate may clarify the amt of elemental iron in each tablet</i> Supportive care, decontamination, antidote, anticipated clinical course, disposition.	
Resus	Cardioresp monitoring Resuscitation & stabilisation of haemodynamics IV crystalloids, aiming for MAP $\geq$ 70mmHg. Titrate to clinical parameters and UO.	
Safe decontamination PROMPT: Any other option? How would you choose between them?	WBI vs endoscopy (consider for large/massive DSP with gastric tablet location) WBI –degree of patient co-operation, need NGT vs intubation (to avoid aspiration esp if coingestants that will cause decreased LOC) 20ml/kg/hr PEG solution (Charcoal ineffective unless being given for coingestant)	

Anticipate complications	Monitor BS, abdomen -stop WBI if develop ileus. Monitor BSL and Fe levels q4-6 hrly	
Antidote PROMPT: Is there a specific antidote?	Toxicology advice. Consider desferrioxamine depending on presence of systemic Fe toxicity or Fe level >90micromol/L. Chelating agent. Weight based IV regime. Complications include pulmonary and renal toxicity. Patient's urine may turn vin rose colour, but this is not reliable guide to Rx. Consider Rx end points and implications for breast feeding.	
Disposition	HDU/ICU Consults - Toxicology / Psychiatry / Social worker / maternal and child health liaison	
Care of partner and baby	Explanation	

Question 3: 2 hours later her vital signs are HR 120/min, BP 85/60. She is agitated and unco-operative and she wants to leave.
How will you manage her? 2min

Expected Response	Details & Comments	
Patient is deteriorating	Recognition that systemic toxicity present – further Mx (eg desferrioxamine discussion with toxicologist)	
Resuscitation	IV fluid resuscitation – N Saline 20ml/kg reassess and rpt if needed (anticipate large 3rd space losses) Check BSL ?Complication WBI eg aspiration or ileus (may need to briefly cease WBI while this is addressed and potentially restart once intubated) Check for GIT bleed / recheck ABG (is HAGMA worsening?) ie Is this systemic Fe toxicity? v's another toxidrome	
De-escalate situation Re-assess patient	Talk to patient, try to convince them to stay for essential treatment Aim to assess whether psych or medical problem? May be signs of systemic toxicity however, still quite early. May reflect psychiatric issues. Need to consider both and address both. Enlist help: partner, social work If related to concern about her child, offer external help.	
Needs to stay in hospital	High risk, can be detained under mental health act, guardianship or common law Duty of care override's patient right of self determination	
If physical/medical problem,	Aim to do "what is best for the patient, who is deemed at the time to not be competent to make a rational decision. May be detained under guardianship act.	
Other	Staff debrief, documentation, incident notification / reporting.	

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

SCENARIO

A 24 year old female presents to your ED with a 3 day history of lower abdominal pain.

Question 1:

Outline your differential diagnosis in this patient

1. Lead examiner

Candidate Number:

2. Co-examiner

Final Mark:

SCENARIO: A 24 year-old woman presents to your ED with a 3 day history of lower abdominal pain.**Question 1:** Outline your differential diagnosis for this patient.

Expected Response	Details & Comments	
Differential Diagnosis	- Gynaecological: Pregnancy (ectopic/miscarriage). PID. Ovarian – cyst rupture/torsion. Cycle related eg. endometriosis. - Surgical: Appendicitis, SBO (unlikely if no prior OT), other. - Gastrointestinal : IBD, Mesenteric adenitis, gastroenteritis, other infections - Urinary : UTI, pyelonephritis, renal colic - Other: Referred pain from spine (unlikely), shingles	

Question 2: After your initial assessment, she has stable observations, and is maximally tender in the right lower quadrant with a negative pregnancy test. You decide to perform some imaging – outline your options and their relative merits.

Expected Response	Details & Comments	
Overview	Pelvic/renal USS is likely most helpful test. Radiation is concern for young woman, esp if she's pregnant. Other considerations include timing, availability, patient's wishes, expectations and consent.	
USS	First line in this setting, no radiation,. (Bedside / TA / TV options) Operator dependent As HCG –ve: ?gynaecological cause (cyst, mid-cycle pain, ovarian torsion, tubo-ovarian abscess, pelvic fluid), ?appendicitis, ?renal cause (pyelonephritis, obstructed kidney/calculi)	
<i>Prompt</i>	<i>Can you expand on use of US in respect to your differential diagnoses?</i>	
<i>Prompt</i>	<i>What is the relative accuracy of US for these conditions?</i>	
CT abdomen <i>If mention use of CT prompt 'when would you perform CT?'</i>	Limited role due to radiation in young patient, diagnostically helpful. Only perform if clinically indicated (eg. Likely renal calculus, USS result indicating need for CT) or if clinical direction unclear after initial history/USS. Pros: Potential cons: fluid status, contrast exposure and renal function	
<i>Prompt</i>		
CXR	Low yield in lower abdominal pain. Indicated if concern for perforated viscus ?free gas prompting OT.	
AXR <i>If mention must qualify</i>	Low yield, relatively high radiation. Little role unless clinical concern for bowel obstruction.	

Question 3: The US shows no cause for her pain but the appendix was not visualised. She has been discussed with the surgical registrar, who requests an ED Short Stay admission and a CT abdomen. What are the issues to consider in this situation?

Expected Response	Details & Comments	
Several issues to consider	Clinical condition of patient , local policies/SSW admission process (ED driven), limited role for CT without senior review. Personally review patient history and examine	
Admission to ED SSW	Clinical assessment: • If period of observation clinically appropriate, later discharge possible, then admit to SSU. Later Surgical review as needed. • Not appropriate if patient requires admission or OT. Patient should be admitted to ward for later review by surgical team. Assuming clinically stable. • (May be appropriate to discharge home if pain adequately managed and clinical concern low. Appropriate follow-up/instructions) Policy issues/Local practice: SSW admission decisions should only be made by Senior ED staff who have assessed the patient and feel it is appropriate.	
CT abdomen	Unlikely to be appropriate. If clinical concern for appendicitis with –ve USS then further observation/laparoscopy likely next best step. In absence of firm indication surgical team should review patient prior to CT and discuss with Surgical Consultant.	
Surgical team review/communication	‘On take’ surgical units should have staff available to review patient if this is required (Consultant or alternate registrar). Discuss with Surgical team re 1) admission to ward or Surgical SSU as appropriate 2) CT does not appear indicated and that Surgical Unit needs to review patient and discuss prior to ordering.	

Question 4: After observation in the ED SSU, her diagnosis is confirmed as pelvic inflammatory disease. Outline your management.

Expected Response	Details & Comments	
Treatment:		
Antibiotics Stat ceftriaxone 250 mg IMI (Gonorrhea) + Azithromycin 1g oral repeated in 1/52 (or doxycycline 100 mg daily for 10/7) for chlamydia + Metronidazole 400 mg bd (10/7) (IV route may be necessary) Analgesia – oral, parenteral options (and thus impact on suitability for discharge) Supportive care – IV fluids, anti-emetics		
Disposition		
Criteria for admission/discharge	Systemically unwell?, pain control, social, time of day, risk of loss to follow up...	
<i>As required:</i> <i>Prompt If discharged, what are other important issues to address?</i> <i>Prompt: What are your admission criteria?</i>		
Follow up of ED testing by SHC or LMO	Urine PCR, High Vaginal Swab/PCR Potential Health dept notification	
Patient testing/review for other STD's	Referral to sexual health clinic or LMO followup re need for further testing for STDs	
Contact tracing	If swabs +ve or clinical Dx of PID compelling then treatment of partners/ contacts is indicated. Contact tracing and Rx eg assisted by sexual health clinic or LMO.	
Counselling	Discussion with patient re importance of safe sexual practice, treatment (for fertility etc), high ‘asymptomatic infection’ rate , need for contact tracing etc.	

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?