COLLEGE OF INTENSIVE CARE MEDICINE
OF AUSTRALIA AND NEW ZEALAND

SECOND PART EXAMINATION

EXAM REPORT

March / May 2025

This report is prepared to provide candidates, tutors, and Supervisors of Training (SOTs) with information regarding the assessment of candidates' performance in the CICM Second Part General ("SP") Examination. This report is for use as an educational resource and includes a guide as to expected content of the answers for the written section. Trainees/SIMGs should discuss the report with their supervisors and educators so that they may prepare appropriately for future examinations. Trainees/SIMGs should not rely solely on writing practice answers to previous exam questions for exam preparation and should first establish a strong knowledge base from clinical learning and studying relevant texts, journals, and on-line resources.

The exam comprises a written section and an oral section. The written section consists of two papers, comprised of 15 short answer questions each. The pass mark for the written section is derived by the Angoff method and for this sitting was set at **48.6%.** The oral section consists of eight interactive vivas and two separate clinical hot cases. The vivas were completed in Melbourne over two consecutive days (Thursday 22nd and Friday 23rd May) and the hot cases were completed in Melbourne (Wednesday 21st May).

The tables below provide an overall statistical analysis as well as information regarding performance in the individual sections. A comparison with data from the five previous exams is provided.

In all sections of the exam the candidate must demonstrate performance consistent with that of a trainee who is ready to enter the transition year of the CICM training program, by demonstrating they have the ability for safe, effective, independent practice as a transitional fellow. Candidates who are not at this level are encouraged to defer their attempt at the exam.

Overall Performance	2025.1	2024.2	2024.1	2023.2	2023.1	2022.2
Presenting for written (Including SIMG)	62	108	76	81	66	52
Carrying a written pass or exempted from a previous attempt	13	17	20	11	8	29
SIMG written exempt	1	3	4	2	2	3
Total number presenting (written + carry + SIMG)	77	128	100	94	76	84
Invited to orals (passed written section)	41	53	45	47	24	23
Total number invited to the oral section	56	70	65	58	32	52

Analysis of Performance in Individual Sections	2025.1	2024.2	2024.1	2023.2	2023.1	2022.2
Successful in the written section	41/62	53/108	45/76	47/81	24/66	23/52
	66%	**49%**	**59%**	**58%**	**36%**	**44%**
Successful in the Hot case section	35/56	43/70	31/65	32/58	18/32	27/51
	63%	**61%**	**48%**	**55%***	**56%**	**53%**
Successful in both Hot cases	24/56	24/70	17/65	17/58	13/32	16/51
	43%	**34%**	**26%**	**29%**	**41%**	**31%**
Successful in the Viva section	46/56	51/70	53/65	48/58	27/32	44/51
	82%	**73%**	**82%**	**83%**	**84%**	**86%**

Sectional Pass Rates	2025.1		2024.2		2024.1		2023.2		2023.1	
Hot cases	**Pass rate**	**Highest individual mark**	**Pass rate**	**Highest individual mark**	**Pass rate**	**Highest individual mark**	**Pass rate**	**Highest individual mark**	**Pass rate**	**Highest individual mark**
Hot case 1	57%	90%	60%	85%	48%	90%	53%	83%	56%	85%
Hot case 2	66%	90%	49%	80%	51%	80%	53%	85%	56%	90%
VIVAs*									**Day 1**	**Day 2**
Viva 1	77%	83%	64%	88%	77%	90%	76%	85%	56% / 65%	63% / 80%
Viva 2	73%	80%	50%	68%	74%	90%	67%	79%	94% / 80%	88% / 86%
Radiology Viva 3	36%	69%	67%	80%	54%	70%	48%	76%	75% / 83%	63% / 62%
Procedure Viva 4	75%	85%	49%	93%	71%	90%	74%	88%	81% / 78%	56% / 74%
Viva 5	80%	95%	73%	90%	62%	85%	76%	90%	44% / 74%	81% / 70%
Viva 6	70%	77.5%	81%	93%	58%	97%	79%	91%	63% / 64%	63% / 64%
Viva 7	57%	90%	46%	75%	85%	94%	83%	79%	75% / 80%	88% / 75%
Communication Viva 8	70%	100%	67%	91%	72%	83%	53%	85%	44% / 88%	75% / 75%

**Vivas 1, 2, 3 and 4 were examined on Thursday and Vivas 5, 6, 7 and 8 were examined on Friday.*

Oral Section Pass Rates	2025.1	2024.2	2024.1	2023.2	2023.1	2022.2
Candidates who passed the written section and passed the overall exam	30/41	39/53	37/45	34/47	17/24	20/52
	73%	**74%**	**82%**	**72%**	**71%**	**38%**
All candidates invited to oral section and passed the overall exam (written + carry + SIMG)	43/56	46/70	50/65	40/58	23/32	36/51
	77%	**66%**	**77%**	**69%**	**72%**	**71%**
Overall Pass Rate	43/77	46/125	50/96	40/92	23/74	36/79
	56%	**37%**	**52%**	**43%**	**31%**	**46%**

EXAMINERS' COMMENTS

Written Paper

66% of the Second Part examination candidates who sat the March 2025 written section were invited to the oral section. Candidates who did not qualify for an invitation did so for one or more of the following reasons:

- Insufficient knowledge of the topic in question.
- Insufficient detail and/or depth of the answer.
- Poorly structured answer.
- Inadequate reference to supportive evidence where relevant.
- Failure to answer the question asked.
- Omission of all or part of the question.

Candidates that failed questions most often gave insufficiently detailed answers that were not at the level expected of a transitional fellow. Candidates often gave generic "proforma" answers that did not deal with the specific issues or scenario outlined in the question.

Candidates are advised to read the questions carefully and thoroughly and ensure they answer the specific question asked and address all parts of each question. Examiners commented that candidates had not appeared to consider the mark distribution in some multi-part questions, spending too little time on the more important sections. Candidates are reminded to make sure their writing is legible and to avoid using non-standard abbreviations. Candidates are also reminded that professional conduct is assessed throughout the exam process and that inappropriate comments written on the answer paper are not acceptable.

The examination report is now referenced to the syllabus to aid the candidate in directing their study more effectively. A selection of marking rubrics to complement the SAQ discussion have been published to guide trainees, SOTs, and educational advisors in the requirements of the assessment process and the standard of written content expected of the transitional fellow.

Candidates are strongly encouraged to consider feedback and advice from SOTs and educational advisors when considering the appropriate time for them to attempt the Second Part Examination.

Content Coverage and weighting of the SP syllabus

The CICM T-18 (2025) document details the Second Part Examination construction, content and weighting of the SP syllabus. The aim of this resource is to ensure all CICM SP examination sittings are fair, consistent and aligned with the syllabus.

The T-18 document applies for all Second Part examination sittings commencing 2025, however the written paper has followed the principles outlined in T-18 (2025) for the past three SP examination sittings as the syllabus was developed and released for the 2024 sittings.

The last three SP written examination sittings are published below to demonstrate the application of the T-18 (2025). Knowledge of the syllabus coverage and weighting will help candidates, tutors and SOTs understand the scope of the examination, act as an educational resource and focus their preparation efforts accordingly.

Coverage of the Syllabus Domains of Content.

The Second Part examination written section will cover >65-70% of the syllabus domains per sitting.

	2025.1	2024.2	2024.1
Syllabus domain coverage	74%	74%	74%

Levels of Understanding

L2 Conditions and topics will comprise no more than 30% of the written paper in total (90 marks out of 300 marks) and L2 conditions and topics will not form the primary focus of individual vivas

Levels of understanding	2025.1	2024.2	2024.1
Level 1	82%	92%	88%
Level 2	18%	8%	12%

Categories of the SAQs

SAQs will examine candidates at different cognitive levels e.g., ability to recall, understand, apply, analyse and evaluate knowledge based on Blooms taxonomy

Categories of SAQs	2025.1 - SAQ totals	2024.2 - SAQ totals	2024.1 - SAQ totals
Clinical Dx/ Assessment	8	9	10
Clinical Management	10	9	9
Interpretation of Investigations	4	5	5
Evaluations of Evidence	2	3	2
Professional behaviour	2	1	1
Equipment / Procedure	5	3	3

SECOND PART WRITTEN EXAMINATION

(A) Write your answers in the blue books provided. **Each** question should be answered in a separate booklet. Please ***DO NOT*** write two short answer questions in the same booklet.

(B) Start each answer on a **new booklet** and indicate the **question number**. It is not necessary to rewrite the question in your answer book.

(C) You should aim to answer each question in **ten** minutes.

(D) **All** questions are worth ten marks each in total.

(E) Record your **candidate number** and each **question number** on the cover of each book, page, and hand in all booklets.

GLOSSARY OF TERMS

Critically evaluate:	Provide and explain the evidence available relating to a topic.
Outline:	Provide a summary of the important points.
List:	Provide a list.
Compare and contrast:	Provide a description of similarities and differences. You may tabulate your answer.
Assessment:	Generic term that implies determining an underlying diagnosis, encompassing; history, clinical examination, and relevant investigations.
Management:	Generic term that implies determining an overall management plan, encompassing; resuscitation, definitive treatment, initial and ongoing monitoring with supportive treatment.
Discuss:	Explain the underlying key principles. Where appropriate, this may include controversies and/or advantages and disadvantages.
Explain:	Make plain or known in detail.

NOTE

Where laboratory values are provided, abnormal values are marked with an asterisk (*****).

Question 1

Compare and contrast direct laryngoscopy with video laryngoscopy for intubation in the ICU.

(10 marks)

Syllabus topic/section: 2.1.5 Respiratory Intensive Care: Airway management

Discussion:

This question focused on a comparison of two *techniques* for airway access (laryngoscopy) but was interpreted as a discussion of laryngoscope *devices* by many. Candidates who performed less well spent time describing the types of blades, screens, batteries and power supply without any reference as to how this affects the clinical view, the operators' ability to perform an intubation, the indication for intubation, first pass success rate and the rate of complications for example. Notable factual errors were also common among the responses. For example, there was a bias towards interpreting the difficulty of the direct technique as beneficial, a claim hard to substantiate.

Candidates who performed well were able to discuss the indications, technique differences, complications, logistical differences and similarities between the 2 techniques. Candidates could consider the why, when and how of intubation as a potential structure and utilise a table to effectively compare and contrast the 2 different techniques. Candidates who were aware of published data displayed mastery of the subject and were rewarded accordingly, even if specific trial names were not mentioned. Answers which mentioned the rate of Oesophageal intubations, glottis visualisation, differing adjuncts in teaching and supervision were superior.

The rubric is provided to aid the candidate's future study.

Rubric

	Below standard	At standard	Above standard
a) VL vs DL (10 marks)	Not clear on key differences **or/and** omission of key safety points **0 - 4.5 marks**	Clear understanding of differences in use for VL vs DL, especially for key points (e.g. technique, improvement in safety outcomes with VL, complication rates). **5 - 6.5 marks**	**At standard PLUS:** Advanced perspective on role of VL vs DL. May include some mention of relevant studies. **7 - 10 marks**

Angoff score for this SAQ	5.27
Highest candidate score achieved	6.00
Angoff pass rate	14.3%

Question 2

You have been asked to review a new “Drug X” as to whether it should be added to the ICU formulary. It is administered over 7 days for cardiogenic shock to improve ejection fraction (EF). The following study data has been provided:

	Outcome	
	Improved EF	Unchanged EF
Drug X (n=100)	96	4
Placebo (n=100)	92	8

For this set of data:

a) Calculate and explain the odds ratio (OR)

(2 marks)

b) Calculate and explain the relative risk reduction (RRR)

(2 marks)

c) Calculate and explain the number needed to treat (NNT)

(2 marks)

d) List the additional information that would aid your decision-making regarding the addition of the drug to the ICU formulary

(4 marks)

Syllabus topic/section: 2.5.1 Research and Evidence Based Practice in Intensive Care

Discussion:

Many candidates appeared to have knowledge gaps and answers provided did not demonstrate and explain how to calculate or show how to calculate OR, RRR, NNT. Many also confused "odds" and "risk" both in concept and calculation, making it difficult to score well in parts a) to c). Candidates who scored highly in these sections demonstrated detailed knowledge of the terminology and were able to show their calculations clearly.

In part d) most candidates were able to provide a list with adequate detail; answers could have been improved by linking back to the information provided for the first 3 parts. Candidates who used structure often scored higher marks as they were able to provide more detail. For example, listing decision making information under the headings of drug factors (ie. Storage, pharmacokinetic and pharmacodynamic information), Organisational factors (Cost, staff education, administration concerns) and Patient factors (case mix and cohort requirements) would have provided an example of an above standard answer.

Angoff score for this SAQ	3.76
Highest candidate score achieved	5.00
Angoff pass rate	31.7%

Question 3

A 56-year-old male was trapped for a prolonged period from the waist down between his slow rolling 4-wheel drive car and a brick wall. On presentation, he has a heart rate of 150 beats/minute and a systolic blood pressure of 80 mmHg. He has obvious bruising extending from his lower abdomen to just above his knees. There is blood at his penile meatus.

a) List the likely injuries

(3 marks)

b) Outline your blood product and fluid administration over the first 24 hours

(4 marks)

c) List the complications you would anticipate in this patient during the first 72 hours

(3 marks)

Syllabus topic/section: 2.1.13 Trauma Intensive Care

Discussion:

Candidates who scored well in part a) provided a structured list of injuries relevant to the case. Conversely answers that lacked structure tended to miss relevant injuries and this then correlated with missing complications in part c). The above standard answer concentrated on injuries relevant to the stem, including pelvic, complex lower limb (including vascular) injuries and crush injuries including rhabdomyolysis.

Blood transfusion management in part b) was generally well answered. Many candidates did not put equal emphasis on fluid administration, which was equally important, given the significant risk of crush injury and associated rhabdomyolysis. Both Blood AND fluid management was asked for in the stem. Easy marks were lost due to not following the question directions.

Given the history provided, complications secondary to crush injury with rhabdomyolysis and vascular injury were required for an at standard answer. A broad range of complications in part c) was required and better answers included those of therapy (eg MTP) as well as complications from the different injuries sustained. Examples of complications likely for this patient within the first 72 hours include AKI from both traumatic mechanisms and therapy, complications secondary to potential haemorrhagic shock and subsequent massive transfusion, complications of long bone fractures including fat embolism, compartment syndrome and ischemia from threatened vascular supply to the lower limbs.

Angoff score for this SAQ	4.67
Highest candidate score achieved	6.00
Angoff pass rate	44.4%

Question 4

Regarding key performance indicators in the intensive care unit:

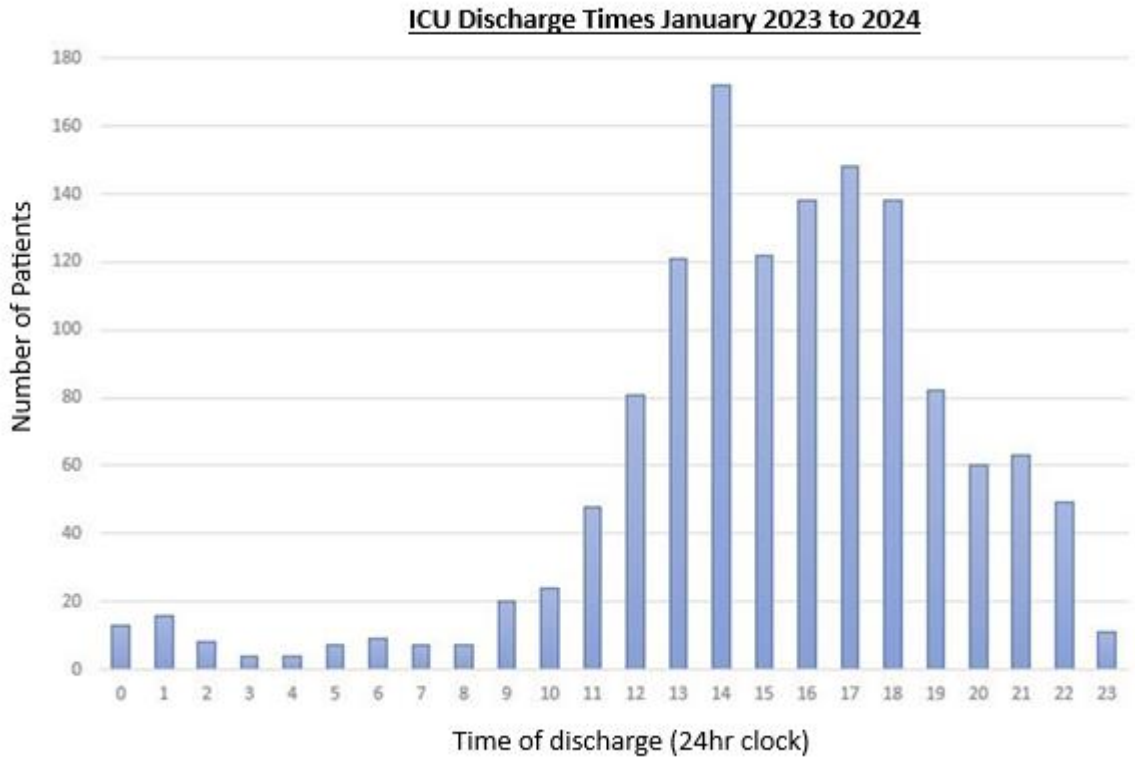
a) List **eight** potential consequences of ICU exit block on a hospital, staff and patients

(4 marks)

Below is a histogram of ICU discharge times for a single ICU.

b) Interpret the graph and outline the potential significance of this graph on patient care

(6 marks)



Syllabus topic/section: 2.3.1 Intensive Care Administration: Safety and quality

Discussion:

Candidates generally did well in part (a) by thinking broadly about the consequences for hospital, staff and patients, as the question asked. Credit was given for ICU-associated complications (eg delirium, delays in allied health intervention), however candidates are encouraged to separate markers of poor-quality care in the ICU (MRO acquisition, poor clinician engagement) from patient flow issues related to exit block; and to use objective language appropriate to an academic exam. Candidates are reminded that if the question lists eight potential causes only the first eight will be included for marking.

Those who scored highly in part (b) demonstrated an ability to interpret the graph by referencing in-hours vs out-of-hours discharges, rather than simply describing the discharge times displayed. Candidates who scored lower tended to approach the question from the viewpoint of a junior trainee, being mostly concerned with ICU workflow patterns and the impact on handover to ward teams. Above-standard answers demonstrated a broader, more conceptual understanding of out-of-hours discharge, considering causes other than ICU workflow (eg discharge of patients with more complex or specialised needs vs the requirement to create capacity for unplanned admissions), and included the specific consequences of out-of-hours discharge such as increased

mortality and readmission rates. The understanding of how unit workflow interacts with broader concerns within the hospital and the effect on patient care was a marker of the superior answer.

Angoff score for this SAQ	4.27
Highest candidate score achieved	6.50
Angoff pass rate	49.2%

Question 5

The following blood tests were obtained from a trauma patient with stable haemodynamic parameters on day 3 of ICU.

Parameter	Patient	Reference
Haemoglobin	**63 g/L***	130-175
Haematocrit	**0.22***	0.40-0.52
MCV	98 fL	80-99
MCH	29 pg	27-33
Platelets	**496 x 10^9/L***	150-400
WBC	**20.0 x 10^9/L***	4-11
Neutrophils	**13.6 x 10^9/L ***	1.9-7.5
Lymphocytes	2.2 x 10^9/L	1.0-4.0
Meta/myelocytes	**1.3 x 10^9/L***	0.0-0.06
Nucleated RBC	**0.1 x 10^9/L***	
Reticulocytes	**162 x 10^9/L***	10-100
Fibrinogen	**4.3 g/L***	1.5-4.0
Sodium	142 mmol/L	135-145
Potassium	3.8 mmol/L	3.5-5.2
Urea	**15.1 mmol/L***	3.2-7.7
Creatinine	**115 µmol/L***	50-110
Glucose	**9.6 mmol/L***	3.5-7.7
Calcium	**2.0 mmol/L***	2.2-2.6
Phosphate	0.9 mmol/L	0.8-1.5
Magnesium	1.0 mmol/L	0.6-1.2
Protein	**51 g/L***	64-83
Albumin	**24 g/L***	32-48
Bilirubin	**79 µmol/L***	2-20
Bilirubin (conjugated)	**47 µmol/L***	0-5
Alkaline Phosphatase	58 U/L	30-150
Gamma GT	**507 U/L***	10-50
AST	**287 U/L***	10-50
ALT	**101 U/L***	0-40
LDH	**282 U/L***	110-120
CRP	**139mg/L***	<5

a) Outline and explain the key abnormalities

(4 marks)

b) Discuss the additional investigations you would request to assess anaemia in this patient

(3 marks)

c) Describe the management of anaemia in this patient

(3 marks)

Syllabus topic/section: 2.1.11 Haematological and Oncological Intensive Care 2.1.13 Trauma Intensive Care

Discussion:

A structured approach was necessary here and answers that were poorly structured did not score as well. Candidates who did well noted the need for explanation of the key abnormalities, not simply an outline as directed in the stem. Similarly, part (b) called for a discussion of the additional investigations rather than simply providing a list.

Candidates are reminded to read the question carefully and with **particular reference to the glossary terms** to ensure they have the best opportunity to include the relevant information in their answers.

The rubric is provided to aid the candidate's future study.

Rubric

	Below standard	At standard	Above standard
a) **Outline and explain the key abnormalities** **(4 marks)**	Limited integration or no supporting explanation of key abnormalities (as per at standard) Stipulating anaemia without any classification of anaemia **0-1.5 marks**	Integration **and explanation** to cover minimum of • Some **classification** of anaemia (normochromic, normocytic) • Inflammation/infection • Haemolysis • Likely alcohol related liver disease Consider *at standard* **mark** for otherwise *above standard* **answer** which omits one of **minimum** *at standard* **criteria** **2.0-2.5 marks**	**As at standard PLUS** Integration and explanation of all/majority of abnormalities • Greater depth than minimum standard • Marrow precursors • Type of haemolysis (intravascular verses extravascular) • Liver dysfunction Important negatives that assist integration/explanation **3.0-4.0 marks**
b) **Discuss the additional investigations you would request to assess anaemia in this patient** **(3 marks)**	List without discussion Omission of one or more of key topics as per *at standard* **0-1 marks**	General principles that might guide subsequent subspecialty discussions • Haemoglobin (Hb) production (B12, folate) • Hb loss – ongoing bleeding • Hb destruction – blood film, Red cell antibody screen, DAT, infection etc (extensive list NOT required) Consider *at standard* mark if *above standard* answer and omission of Hb production **1.5 marks**	**As at standard PLUS** Detailed explanation of appropriate tests to support **and refute** potential causes. Detailed investigations for haemolysis assessment **2.0-3.0 marks**

c) **Describe the management of anaemia in this patient** **(3 marks)**	Poorly structured with generic (not specific to this case) anaemia management answer. Omission of one or more of the minimum criteria for *at standard,* noting the comments regarding *discretion* **0-1 marks**	***Minimum*** should cover Stop loss • Bleeding and haemostasis Remove precipitant • infection or stop culprit meds Hb replacement • After repeat crossmatch or haem review) Use ***discretion*** based on answers given in question "b" but broad principles of loss, replacement and some basic disease specific management is a minimum **1.5 marks**	**As at standard PLUS** Greater detail and some question specific rather than generic management AND Detailed disease specific management (when, why and how) • Plasma exchange, immunosuppression, splenectomy etc **2.0-3.0 marks**

Angoff score for this SAQ	4.44
Highest candidate score achieved	7.00
Angoff pass rate	54%

Question 6

With respect to iatrogenic drug withdrawal (IDW) of medicines prescribed as part of intensive care management:

a) Explain why critically ill patients are vulnerable to IDW

(4 marks)

b) Outline the clinical presentation

(2 marks)

c) Outline the management and prevention of IDW

(4 marks)

Syllabus topic/section: 2.1.21 Applied Pharmacology in Intensive care

Discussion:

The responses to this question varied. Those candidates who could recognise and describe IDW with regards to ICU prescribed drugs (eg opioids and benzodiazepines) generally scored at or above the minimum standard, with those able to describe this in-depth scoring more highly. Part A required both patient and drug factors to be addressed and those candidates who could do so scored well. The candidates who provided a below standard answer did so mainly because they did not follow the directions of the stem. Medications *prescribed as part of intensive care management* are not drugs of chronic disease therapy or withdrawal states from drugs of abuse. Answers concentrating on these drugs did not gain marks.

Less successful responses included those which focused on pre-ICU medications being withheld or discontinued, or withdrawal/intoxication states resulting from pre-ICU drugs of abuse. This was not what the question was asking, and candidates are reminded to read the question carefully. Answers that were overly narrow in scope or else did not focus on the correct definitions also did not score well. Part B was generally answered to a minimum standard, but few candidates were able to expand beyond opioids and benzodiazepines. Also, some candidates listed a variety of potential withdrawal side effects without reference to the culprit medications.

In Part C, the management was often poorly structured with some relevant points but a lack of coherent structure and detail.

The rubric is provided to aid the candidate's future study.

Rubric

	Below standard	At standard	Above standard
a) **Explain why critically ill patients are vulnerable to IDW** **(4 marks)**	Poorly structured answer Nil or very superficial mention of patient factors or drug factors including dose/duration AND/OR Opioids and benzo not specifically mentioned Note: Question is about **ICU prescribed** drugs, so candidates should not receive additional marks for discussion about	*Both patient and drug specific factors required* Patient factors • Mentions some relevant patient factor (organ dysfunction, multiple drugs, elderly, psychiatric, previous drugs, difficult to diagnose etc) Drug factors • Both opioid and benzo withdrawal must be mentioned with basic	**At standard PLUS** Patient • Multiple factors as per *at standard* and in detail Drugs • Description extends beyond benzo/opioids to other sedatives and CVS/RS/CNS medication

	omission of chronic outpatient medication **0-1.5 marks**	reference to dose, duration and wean **2.0-2.5 marks**	 **3.0-4.0 marks**
b) **Outline the clinical presentation of IDW** **(2 marks)**	Failure to describe clinical signs consistent with opioid or benzo withdrawal OR Signs appropriate, but only physical (CVS/GI) OR psychological (CNS) described **0 - 0.5 marks**	Discussion regarding delayed presentation, lack of specific signs and that the condition mimics other conditions (sepsis, delirium, GI pathology) Opioid and/or benzos should be described as a minimum Multiple (>1) organ system effects correctly described. Consider **above standard** if some minor **at standard** omissions but provides detailed description of non-opioid/benzo withdrawal **1 mark**	**at standard PLUS** Description extends beyond opioid and benzo (higher marks for depth AND breadth of pharmacopeia described) And/or Relation to drug dose, pharmacology and withdrawal rate discussed in detail **1.5 - 2.0 marks**
c) **Outline the management and prevention of IDW** **(4 marks)**	Poorly structured answer Incorrect or superficial answers Fails to mention more than one of the 4 domains in the 'at standard' column **0-1.5 marks**	Answers should cover the following domains • Identify patient at risk • Tapering of medication • Supportive Specific drugs – basic description of key drugs prescribed to treat or prevent IDW (dexmed etc)**Use discretion for answers** which omit or only superficially touch onone of the above domains but otherwise demonstrate an excellent overall plan **2.0-2.5 marks**	**at standard PLUS** Detailed description in each of the four domains or covers the content without specific headings Good articulation of a proactive prevention (weaning) and treatment plan with some description of drugs used. Use discretion for answers which only superficially cover one of the domains but otherwise demonstrate an excellent overall plan **3.0-4.0 marks**

Angoff score for this SAQ	4.27
Highest candidate score achieved	6.00
Angoff pass rate	38.1%

Question 7

Briefly outline the clinical examination features of the following:

a) Basal ganglia infarct

(3 marks)

b) High (C5) spinal cord injury

(4 marks)

c) Critical illness myopathy

(3 marks)

Syllabus topic/section: 2.1.8 Neurological Intensive Care

Discussion:

Candidates who performed well in this section demonstrated a clear and structured answer, with knowledge of the neurological examination and specific deficits that were related back to the anatomical location of the lesion.

Answers that scored less well were vague and lacked structure. The marking Examiners commented that having a clearer structure and including all elements of the neurological exam in a logical sequence (eg motor: tone/power/reflexes, the various sensory examination components, autonomic features) would have led to more comprehensive and better scoring answers.

Angoff score for this SAQ	4.61
Highest candidate score achieved	5.50
Angoff pass rate	57.1 %

Question 8

Regarding patient self-inflicted lung injury (P-SILI):

a) Outline the pathophysiology for P-SILI (4 marks)

b) Discuss the strategies to minimise P-SILI in ICU patients (6 marks)

Syllabus topic/section: 2.1.5 Respiratory Intensive Care. Mechanical Ventilatory Support L1

Discussion:

Most Candidates had a broad understanding of the P-SILI and attention to specific details could have earned them more marks. Avoid using generic answers, as they may not help earn full marks. Instead, focus on providing clear, specific responses that show your understanding in both parts of the question i.e. the pathophysiology and the strategies to minimise P-SILI. Succinct answers that specifically addresses the question were awarded more marks. Candidates needed to give due attention to glossary of terms.

In Part a), the candidates needed to be more specific in outlining the pathophysiological mechanisms of P-SILI. Scoring marks in this part of the question required the candidates to mention the specific pathophysiological mechanisms and briefly outlining how it leads to over-distension. Candidates who mention 4 to 5 pathophysiological mechanisms and highlighted their clinical relevance scored more marks.

For e.g. "*Inappropriate lung stress and strain- High respiratory rate and work of breathing can lead to high transpulmonary pressures leading to over-distension, thus causing excessive strain in areas of the lung that are less compliant* "

Part b) was a "discuss" question (explain underlying principles & include controversies or advantages and disadvantages) and so candidates who included advantages and disadvantages of various strategies to minimise P-SILI in the answer were awarded more marks.

For example, "*Sedation protects the lung from further aggravation of P-SILI by reducing the respiratory drive however the disadvantages of long-term sedation such as ventilator associated pneumonia, muscle weakness and subsequent delirium needs to be kept in mind "*

The rubric is provided to aid in the candidate's future study.

Rubric

	Below standard	At standard	Above standard
Outline the Pathophysiology for P-SILI **4 marks**	Very superficial and/or inaccurate answer Can list some potential mechanisms but no description or explanation Makes no reference to pulmonary stress/strain **0 – 1.5 mark**	Most mechanisms described AND explained with some detail Must include accurate discussion of basic stress/strain concepts **2 – 2.5 marks**	**AT STANDARD PLUS** Most or all mechanisms described in depth and clinical relevance highlighted **3 – 4 marks**

Discuss the strategies to minimise P-SILI in ICU patients **6 marks**	Superficial answer Can list some strategies but without explanation Does not mention strategies to reduce respiratory drive Unsafe/incorrect management described. **0 – 2.5 marks**	Sensible discussion of strategies including sedation, NMB and protective ventilation **3- 4.5 marks**	**AT STANDARD PLUS** Most/all strategies described and explained in depth. Controversies and advantages or disadvantages explored. **5 – 6 marks**

Angoff score for this SAQ	4.24
Highest candidate score achieved	5.50
Angoff pass rate	54%

Question 9

A 23-year-old patient is admitted with a severe traumatic brain injury and a suspected pituitary injury. With respect to a potential hypothalamic- pituitary injury in this patient:

a) Outline your assessment

(6 marks)

b) Outline your management

(4 marks)

Syllabus topic/section: 2.1.13 Trauma Intensive Care. Traumatic Brain Injury L1

Discussion:

To achieve high marks, candidates should move beyond generic TBI management and demonstrate a detailed understanding of pituitary dysfunction in the context of TBI. High-scoring responses acknowledged the diagnostic challenges of detecting pituitary injury in acute trauma settings.
Strong answers differentiated between acute and delayed manifestations of pituitary dysfunction, emphasizing the importance of early recognition and management of life-threatening hormonal deficiencies—particularly ADH (diabetes insipidus, SIADH) and cortisol (secondary adrenal insufficiency). Candidates were expected to outline the implications for fluid balance, sodium abnormalities (hypo-/hypernatremia), and haemodynamic stability.
Focus on ICU-relevant considerations was essential, with clear delineation between anterior and posterior pituitary involvement. High marks were awarded to those who addressed diagnostic approaches and appropriate hormone replacement strategies, tailored to the acute phase of critical illness.

An overarching statement may help such as:
Assessment for identifying pituitary injury in the context of TBI is complex due to overlapping features. Anterior and posterior pituitary abnormalities in the acute phase need attention with a focus on ADH and steroids. While thyroid, Sex hormones, GH and prolactin can be investigated after the patient has crossed acute phase of trauma.

Part a) – Candidates that included all components of history/examination and investigation pertinent to the pituitary injury were awarded more marks. Since it was an outline question summary of assessment was sufficient. Assessment required the candidates to mention features in history and examination that would put a patient at high risk for pituitary injury and include the clinical presentation. Candidates could score higher marks if they mentioned multimodal investigations including relevant biochemical, endocrinological and radiological investigation.

For example: assessment would include history/examination and investigation. A focused history would include –
1) Mechanisms of injury that could subject a patient to higher risk of pituitary injury- acceleration and deceleration injury or associated base of skull fracture
2) Clinical features suggestive of ADH/Addison's- GCS, refractory hypotension

Part b) - Answers that included how they would manage sodium dysregulation and refractory hypotension and its effects on severe TBI scored higher marks. A safe approach to managing -SIADH, DI, hypocortisolism was expected to score good marks.

Angoff score for this SAQ	4.20
Highest candidate score achieved	5.00
Angoff pass rate	81%

Question 10

The ICU resident has been asked to review a patient on a general medical ward and has called you at home for advice. They are about to evaluate a 48-year-old morbidly obese patient who has mild hypotension and a provisional diagnosis of right leg cellulitis.

a) Outline the assessment you would instruct your junior resident to perform (they have no echocardiography/ ultrasound skills)

(6 marks)

b) Discuss the factors that would influence your decision to admit this patient to your ICU

(4 marks)

Syllabus topic/section: 2.1.3 Sepsis and Infections. Necrotising soft tissue infections L1

Discussion:

Most candidates answered the question appropriately as per the glossary term. Candidates scored well if they provided a structure and contextualised the answer to the given scenario.
Candidates who considered a broad differential and tailored their request (from the resident) for assessment, accordingly, were awarded more marks.

In Part a), history and examination questions directed to form a differential diagnosis for hypotension in the context of cellulitis was expected. Candidates that asked for history including past history and examination features to differentiate between cellulitis and necrotising fasciitis, sepsis versus cardiac failure and end organ effects of hypotension scored high marks.

In part b) candidates gained more marks if they categorised the criteria for admission.
For example: the admitting criteria would depend on variety of factors such as disease factors, patient factors, logistics of the ward/ICU.
Candidates were given credit for mentioning resident seniority, experience, and reliability as factors that would affect diagnosis and admission.

Angoff score for this SAQ	5.17
Highest candidate score achieved	5.50
Angoff pass rate	57.1%

Question 11

A 67-year-old patient is admitted to the ICU with a presumptive diagnosis of community-acquired pneumonia (CAP). On day 5 they remain intubated and ventilated for persistent hypoxic respiratory failure.

a) Outline **six** factors that may predict a poor response to antibiotics in CAP

(3 marks)

b) Outline your assessment of this patient with respiratory failure that is refractory to standard treatment for CAP.

(7 marks)

Syllabus topic/section: 2.1.5 Respiratory Intensive Care. Pneumonia L1

Discussion:

Part a):
Most candidates performed well, correctly listing six factors predicting poor antibiotic response. No classification was required as the question specifically asked for six factors.

Part b):
As an assessment question, candidates were expected to provide a focused history, examination, and investigation targeting causes of non-resolving pneumonia and non-infective contributors to refractory respiratory failure.
Higher marks were awarded to structured responses that explored the underlying aetiology and complications of disease processes contributing to ongoing respiratory failure. A thorough history was expected, including:

- **Atypical infections:** Travel history, occupational exposures, animal contacts
- **Connective tissue diseases:** Rash, haemoptysis, arthralgia, renal symptoms
  Key investigations included:
- Repeat cultures (blood, sputum), sensitivities
- BAL and consideration of multi-resistant organisms (MROs)
- Tests for atypical pathogens: Brucellosis, Q fever, Ross River virus, QuantiFERON-TB Gold
- Comprehensive workup:
  - Autoimmune/vasculitis screen
  - High-resolution CT chest
  - Consideration of lung biopsy if diagnosis remains unclear

Well-organised, thorough answers incorporating these elements scored higher, particularly when investigations were logically aligned with differential diagnoses. Use of bullet points to present a complete investigation list was acceptable and efficient.

Angoff score for this SAQ	5.56
Highest candidate score achieved	6.50
Angoff pass rate	58.7%

Question 12

a) Define systolic anterior motion (SAM) of the mitral valve

(2 marks)

b) List the risk factors for SAM

(3 marks)

c) Outline the specific management of SAM causing hemodynamic instability in a patient post cardiac surgery

(5 marks)

Syllabus topic/section: 2.1.4 Cardiovascular Intensive Care: Valvular Heart Disease L1

Discussion:

Systolic anterior motion (SAM) of the mitral valve is not uncommon post cardiac surgery and is an important consideration in such patients who are shocked on return from theatre.

When defining SAM, candidates who scored higher marks were able to provide physiological consequences of SAM, including mitral regurgitation. This shows a greater understanding of the disorder.

If time permits, when describing management strategies, candidates could improve their answers by providing a brief rationale for individual therapies: For example: Fluid bolus to improve preload and decrease LVOT obstruction; Increased vasopressor support to increase SVR and afterload, maintaining increased LV volume at the end of systole and reduce LVOT obstruction.

Generally speaking, candidates should ensure their handwriting is legible.

Angoff score for this SAQ	4.86
Highest candidate score achieved	5.50
Angoff pass rate	73%

Question 13

With respect to ovarian hyperstimulation syndrome (OHSS)

a) List **four** risk factors for this syndrome

(2 marks)

b) Outline the examination features and key investigation results consistent with severe OHSS

(8 marks)

Syllabus topic/section: 2.1.12: Obstetric Intensive Care: Ovarian Hyperstimulation Syndrome L2

Discussion:

Ovarian hyperstimulation syndrome is a condition associated with assisted reproductive treatment. It is characterised by severe capillary leak due to hormone induced vascular permeability and the features of severe disease are well defined.

Candidates whose answers demonstrated familiarity with the condition and an understanding of the pathophysiology generally did well. Information on specific investigations and their relevance was rewarded over a "scatter gun" approach. For example: FBE: expect haemoconcentration and high white cell count; ultrasound looking at ovary dimensions, number of follicles, presence of torsion, and ascites. CXR looking for pleural effusions.

Candidates should attempt to differentiate in their clinical practice heart failure, fluid overload and capillary leak syndrome.

Some candidates either ran out of time or knew little of the topic because they wrote very little or nothing. Candidates are encouraged to allow enough time to write something for ALL questions in the exam. In addition, candidates should develop a technique for writing something down to gain some marks when knowledge is lacking about a particular topic – *some* marks are better than *no* marks.

Angoff score for this SAQ	3.76
Highest candidate score achieved	5.00
Angoff pass rate	41.3%

Question 14

a) Outline the dosing adjustments in a patient with septic shock and moderate to severe renal dysfunction (without dialysis) for the following drug groups:

(6 marks)

i. Aminoglycosides
ii. Beta lactams
iii. Carbapenems
iv. Glycopeptides

b) Outline the factors that influence antimicrobial drug dosing for the critically ill patient on renal replacement therapy

(4 marks)

Syllabus topic/section: 2.1.21: Applied Pharmacology in Intensive Care; Immunology: Antimicrobials

Discussion:

As stated in the syllabus: “Detailed mechanism of action, pharmacokinetic and pharmacodynamic information is not required. This is covered in the Part I syllabus and examination”. This question is a good example of applied pharmacology of commonly used antibiotics in the ICU. The question explored how we alter the use of such medications in clinical practice in patients with renal dysfunction.

Candidates are reminded to be familiar with the glossary terms. Both parts a) and b) were “outline” questions which is defined as: “Provide a summary of the important points”.

For part a), answers that only stated “Reduce dose or interval” received less marks than those that provided more detail including details about the kill characteristics of the drugs, what doses would be given and, if important, what levels would be targeted.

For part b), a broad approach was required, rather than a focus upon one aspect, neglecting others. Good answers considered patient factors, drug factors, kill characteristics including MIC, RRT factors (type and settings) and factors related to the disease and organism.

The rubric is provided to aid in the candidate's future study.

Rubric *over page*

	Below standard	At standard	Above standard
a) Outline the dosing adjustments in a patient with septic shock and moderate to severe renal dysfunction (**without dialysis**) for the following drug groups i. Aminoglycosides ii. Beta Lactams iii. Carbapenems iv. Glycopeptides **(6 marks)**	If content for each drug category is partly correct, half marks can be awarded. **Up to 1.5 marks per drug category**		
b) Outline the factors that influence antimicrobial drug dosing for the critically ill patient on **renal replacement therapy** **(4 marks)**	Content lacking or incorrect Does not mention drug related considerations or information for drug-related considerations **0-1.5 marks**	Gives reasonable content in the drug-related considerations such as kill characteristics of antibiotics changes in critically ill - protein-binding -volume of distribution ability for therapeutic monitoring Content less detailed for RRT-related and/or patient-related considerations *Must describe drug-related considerations to be At Standard* **2-3 marks**	**At standard PLUS** Most aspects of patient, drug and RRT related considerations **3.5 – 4 marks**

Angoff score for this SAQ	4.84
Highest candidate score achieved	6.00
Angoff pass rate	30%

Question 15

15.1 The following arterial blood gas and biochemistry results are from a patient with cardiac and respiratory disease and recent profuse vomiting.

Parameter	Patient	Reference
FiO_2	0.4	
pH	**7.5***	7.35 – 7.45
PaO_2	58.0 mmHg (7.6 kPa)	
$PaCO_2$	**47 mmHg* (6.2 kPa*)**	35 – 45 (4.6 – 6.0)
HCO_3	**34.8 mmol/L***	22 – 27
Base Excess	**10.2 mmol/L***	-2.0 – +2.0
Sodium	137 mmol/L	135 – 145
Potassium	**2.5 mmol/L***	3.5 – 5.0
Chloride	**92 mmol/L***	95 – 105

a) Explain the acid-base status

(1 marks)

b) List the potential causes of the acid-base abnormalities in this patient

(3 marks)

15.2 A 35-year-old female with pre-eclampsia is admitted to the ICU following an emergency Caesarian section under general anaesthesia for failure to progress during labour at 38 weeks gestation. Arterial blood gas, full blood count and electrolytes post extubation are as follows:

Parameter	Patient	Reference
FiO_2	0.5	
pH	**7.31***	7.35 – 7.45
PaO_2	150 mmHg (19.7 kPa)	
$PaCO_2$	42 mmHg (5.5 kPa)	35 – 45 (4.6 – 6.0)
HCO_3	**20.1 mmol/L***	22 – 27
Base excess	-5 mmol/L	-2.0 – +2.0
Sodium	137 mmol/L	135 – 145
Potassium	4.3 mmol/L	3.5 – 5.0
Chloride	**106 mmol/L***	95 – 105
Haemoglobin	**110 g/L***	125 – 165
White cell count	**19.8 x 10^9/L***	4.0 – 11.0
Neutrophils	**17.3 x 10^9/L***	1.8 – 7.5
Lymphocytes	2.5 x 10^9/L	1.5 – 4.0

a) Explain the acid-base status

(2 marks)

b) Calculate and interpret the A-a gradient

(2 marks)

c) What is the likely significance of the anaemia and the leukocytosis

(2 marks)

Syllabus topic/section: 2.1.5 Respiratory Intensive Care: Interpretation of arterial blood gases and 2.1.7 Renal Intensive Care: Blood gas analysis

Discussion:

15.1 This section was relatively well answered with a metabolic alkalosis and incomplete respiratory compensation mostly recognised. Common causes of this clinical picture from volume contraction, diuretic therapy and vomiting were expected to be included for an at standard answer. Higher marks were achieved if candidates also recognised the specific causes associated with chronic cardiac and respiratory disease.

15.2 This question assessed core principles of acid-base physiology but proved challenging for many candidates, as it required applying these principles to term pregnancy. In pregnancy, a mild compensatory metabolic acidosis is physiologically normal due to chronic respiratory alkalosis (driven by progesterone-induced hyperventilation).

In part a) many candidates misinterpreted the presence of metabolic acidosis as pathological. Furthermore, the relatively elevated $PaCO_2$ (e.g., 42 mmHg vs. the expected 30 mmHg in pregnancy) was overlooked as a critical abnormality. Instead of recognizing this as hypercapnic respiratory acidosis (e.g., from respiratory depression or wound pain), candidates often attributed the elevated $PaCO_2$ to "inadequate compensation" for a perceived primary metabolic acidosis.

Part b) some candidates either did not interpret the A-a gradient or provided wrong calculations. Candidates are advised to re-visit normal physiology related to different stages of pregnancy.

Angoff score for this SAQ	5.79
Highest candidate score achieved	7.50
Angoff pass rate	14.3%

Question 16

With respect to posterior reversible encephalopathy syndrome (PRES):

a) List **four** risk factors

(2 marks)

b) Outline the clinical features and radiological findings on presentation

(4 marks)

c) Outline the management principles of PRES

(4 marks)

Syllabus topic/section: 2.1.8 Neurological Intensive Care: Posterior reversible encephalopathy syndrome

Discussion:

Part a) required a recall of facts with good candidates able to provide 4 differentials from a broad range of conditions to ensure they scored the full 2 marks. Candidates that gave 2 answers from similar categories (eg SLE and scleroderma or preeclampsia and eclampsia) scored less marks as these counted as 1 risk factor due to their overlapping nature.

Part b) required both the clinical features and radiological findings of PRES. Most candidates were able to provide the clinical features in reasonable detail but many struggled to discuss the specific radiological findings. Candidates that did well understood the limitations of CT and were able to discuss the typical patterns of PRES on imaging and the more specific nature of MRI in this condition.

Part c) asked for the management principles of PRES. A number of candidates wasted time on general resuscitation measures and generic management with a FASTHUG approach that didn't score marks as the question asked for management principles. Candidates that scored well included management of the underlying cause, addressed control of the hypertension with safe endpoints and appropriate agents and mentioned management of potential complications (eg seizures/raised ICP).

Angoff score for this SAQ	5.49
Highest candidate score achieved	6.50
Angoff pass rate	42.9%

Question 17

Define the following terms and outline the key differences for each pair. You may choose to illustrate your answer with clinical examples.

a) Cultural safety and cultural competence

(4 marks)

b) Health equality and health equity

(2 marks)

c) Diversity and inclusivity

(4 marks)

Syllabus topic/section: 2.1.1 Medical Expert: Structure and process and 2.6.2 Professional behaviour

Discussion:

Patient care often suffers from a failure to appreciate the cultural and social differences that influence care. Many candidates were able to define the terms but did not compare them and outline the differences as requested by the question. Good candidates defined each term and clarified the definitions using clear health-care related examples. They discussed culture, diversity and inclusions in many domains, not only gender, for example, providing breast-feeding areas for new mothers, providing interpreters when appropriate, displaying signs of acceptance for members of the LGBTIQ+ community, and supporting travel for people living in remote areas.

Candidates that scored less well provided minimal information in their definitions and often mixed up the terms being compared. The SAQ definitions were taken verbatim from the CICM Aboriginal and Torres strait Islander online resource. There is also a published NZ – specific module. Candidates are reminded that all CICM official publications and educational content modules are examinable. It is expected that these resources will contribute to the formation of SAQs in the SP exam for many sittings to come.

Angoff score for this SAQ	3.52
Highest candidate score achieved	5.50
Angoff pass rate	73%

Question 18

A 45-year-old patient has been admitted to your ICU with community acquired pneumonia.

During a drug infusion they develop wide-spread urticaria, severe wheeze and marked swelling of the face and tongue.

All signs and symptoms are rapidly worsening despite 0.5 mg IM adrenaline and 100mg IV hydrocortisone. Assume the specific management of anaphylaxis is correct and ongoing.

Outline your plan for intubation in this patient.

(10 marks)

Syllabus topic/section: 2.1.5b Airway Management and 2.1.10 Anaphylaxis

Discussion:

While there's no single approach to ICU airway management, this case, as presented, needed urgent RSI with a plan for deterioration. Many candidates answered this question well with a structured approach to emergency airway management in ICU.

Good answers included the need for a team approach to urgent RSI with videolaryngoscope, simultaneous set up for FONA and included appropriate monitoring, positioning and appropriate drugs. Above standard answers also included the limitations of supra-glottic devices, and the concurrent issues with vasodilatation and bronchospasm from the anaphylaxis.

Answers that did not score well tended to make unsafe statements about awake fibreoptic intubation or airway topicalisation, made generic statements about a difficult intubation approach or lacked any detail to the technique they had chosen.

The rubric is provided to aid in the candidate's future study.

Rubric *over page*

	Below standard	At standard	Above standard
Outline your intubation plan for this patient. **(10 Marks)**	Answer represents unsafe practice Answer given is a generic intubation and not directed to the scenario listed Major omissions / lack of detail in the answer Does not recognise the need to prepare for a difficult intubation eg include the relevant personnel that would be required *Detail around management of the anaphylaxis does not attract marks as the candidate has been told this is correct and ongoing* **0 - 4.5 marks**	**Overall reflects safe and competent practice** Consider the following for the standard: This tends to reflect the contents of an intubation checklist: For example: -Urgent need for intubation -Anticipated difficult airway with high possibility of FONA and includes a range of equipment that would be needed (small ETT, video laryngoscope, bougie, FONA kit) -Role allocation including the need for anaesthetics or experienced clinician to manage airway Level of detail provided should be appropriate to ensure a safe intubation in this patient **5 - 7 marks**	**At standard PLUS** Includes more detail with rationale for interventions clearly stated Consider the following for an above standard answer: Includes appropriate drug doses / rescue pressors / fluid management Demonstrates knowledge of specific airway algorithms Notes additional challenges of vasoplegia / high airway pressures in anaphylaxis **7.5 - 10 marks**

Angoff score for this SAQ	5.25
Highest candidate score achieved	6.50
Angoff pass rate	54%

Question 19

a) Outline the rationale for a transjugular intrahepatic portosystemic shunt (TIPS)

(1 mark)

b) List **four** contraindications for TIPS

(2 marks)

c) Outline the systemic complications of TIPS
In your answer, include risk factors which would increase the likelihood of developing each complication

(7 marks)

Syllabus topic/section: Section 2.1.6 Gastrointestinal Intensive Care. Topic: Hepatic Failure

Discussion:

Most candidates answered well and had specific knowledge required for the answers. Granular details were not required in part a) considering the mark distribution in this question.

Contraindications of TIPS were well described, including Pulmonary HTN, and polycystic liver disease to name a few.

Candidates performed well if they paid close attention to the question and focussed on the systemic complications of TIPS (such as hepatic encephalopathy, liver failure and congestive cardiac failure) instead of localised or procedural complications. Many candidates who included localised or procedure related complications did not score additional marks.

Angoff score for this SAQ	4.88
Highest candidate score achieved	6.00
Angoff pass rate	77.8%

Question 20

Discuss the potential mechanical strategies for supporting myocardial function in a 58-year-old patient presenting with cardiogenic shock post-revascularisation for an acute anterior myocardial infarction.

In your answer, include the physiological rationale for each strategy.

(10 marks)

Syllabus topic/section: Section 2.1.4 Cardiovascular Intensive Care. Topic: Ischaemic heart disease, mechanical supports

Discussion:

This question focused on the discussion of mechanical strategies for supporting cardiogenic shock following myocardial infarction which should include rationale, advantages and disadvantages. Marks were awarded to strategies such as VA ECMO, IABP, Ventricular Assist Device, Microaxial flow pump (Impella) and cardiac pacing. Discussion of at least VA ECMO and IABP was expected of candidates.

Some candidates focussed on explaining the physiological rationale for each strategy only. The question asked the Candidate to "Discuss*".* In the glossary of terms discuss is defined as "*explanation of the key principles, where appropriate this may include controversies and /or advantages and disadvantages"*. The successful Candidates discussed the advantages and disadvantages of potential mechanical strategies *in addition to* the physiological rationale for each strategy.

Candidates are reminded that the glossary of terms is an aid to guide the answer content required and this will gain marks.

Angoff score for this SAQ	4.81
Highest candidate score achieved	7.00
Angoff pass rate	87.3%

Question 21

21.1 An elderly patient with a recently normal echocardiogram is admitted to hospital for investigation of falls and progressive functional decline. Two days later the patient is referred to the ICU with hypoxia, tachypnoea and clinical features of congestive cardiac failure.

The biochemistry is as follows:

Parameter	Patient	Reference
Sodium	144 mmol/L	135 – 145
Potassium	**3.1 mmol/L ***	3.5 – 5.0
Chloride	102 mmol/L	95 – 105
Bicarbonate	**21 mmol/L ***	22.0 – 26.0
Glucose	3.9 mmol/L	3.5 – 6.0
Urea	**1.4 mmol/L ***	3.0 – 8.0
Creatinine	**29 µmol/L ***	45 – 90
Magnesium	**0.65 mmol/L ***	0.75 – 0.95
Albumin	**14 g/L ***	35 – 50
Protein	**59 g/L ***	60 – 80
Total bilirubin	4 µmol/L	< 26
Aspartate transferase (AST)	**41 U/L ***	< 35
Alanine transferase (ALT)	**55 U/L ***	< 35
Alkaline phosphatase (ALP)	**135 U/L ***	30 – 110
Gamma Glutamyl transferase (GGT)	**61 U/L ***	< 40
Ionised calcium	**1.31 mmol/L ***	1.10 – 1.35
Calcium corrected	2.32 mmol/L	2.12 – 2.62
Phosphate	**<0.10 mmol/L ***	0.8 – 1.5
Creatine Kinase	**15 U/L ***	55 – 170
High sensitivity Troponin T	**11 ng/L ***	<10 ng/L

a) List the biochemical abnormalities and explain their significance.

(2.5 marks)

b) List **five** most likely causes for the hypophosphataemia.

(2.5 marks)

QUESTION 21 Continued on Next Page

21.2 A patient recently discharged from hospital following a long admission for management of variceal bleeding and decompensated alcoholic cardiomyopathy is referred to the ICU. They have presented to the emergency department with refractory seizures and hypotension.

The biochemistry is as follows:

Parameter	Patient	Reference
Sodium	140 mmol/L	135 – 145
Potassium	**5.1 mmol/L ***	3.5 – 5.0
Chloride	102 mmol/L	95 – 105
Bicarbonate	**20 mmol/L ***	22.0 – 26.0
Glucose	5.5 mmol/L	3.5 – 6.0
Urea	**9.4 mmol/L ***	3.0 – 8.0
Creatinine	**145 µmol/L ***	45 – 90
Albumin	**19 g/L ***	35 – 50
Protein	**75 g/L ***	60 – 80
Total bilirubin	24 µmol/L	< 26
Aspartate transferase (AST)	**71 U/L ***	< 35
Alanine transferase (ALT)	**67 U/L ***	< 35
Alkaline phosphatase (ALP)	**156 U/L ***	30 – 110
Gamma Glutamyl transferase (GGT)	**72 U/L ***	< 40
Ionised calcium	**0.61 mmol/L ***	1.10– 1.20

a) List **five** possible causes of these biochemical abnormalities

(2.5 marks)

b) List **five** investigations which would help discriminate between these causes

(2.5 marks)

Syllabus topic/section: Section 2.1.7 Renal Intensive Care. Topic Acid-base and Electrolyte Disorders

Discussion:

This question is focused on the understanding of Calcium and Phosphate abnormalities and its relationship with renal and endocrine function in the critically ill.
Question 21.1 was answered well by candidates. Most candidates were able to list the biochemical abnormalities and the causes of hypophosphatemia.

Many candidates failed to identify severe hypocalaemia and renal dysfunction in Question 21.2. Candidates were awarded marks if they were able to identify the data pattern of hypocalcaemia and renal dysfunction. Candidates who focused on causes of seizure without identifying and corelating it to the biochemical abnormalities were not awarded marks. Examples of investigations acceptable would include Vit D level, PTH and PTH-rp, amylase and lipase.

Angoff score for this SAQ	4.14
Highest candidate score achieved	5.00
Angoff pass rate	57.1%

Question 22

A 38-year-old patient has been admitted to the ICU after a workplace accident. The patient was walking at ground level carrying a metal ladder that accidentally crossed high voltage power lines. CPR was commenced and the patient was intubated on ambulance arrival.

Outline the likely potential injuries and the corresponding examination findings you would expect on admission.

(10 marks)

Syllabus topic/section: 2.1.14.a Environmental injuries in ICU: Electrocution (L1 condition), 2.1.13 Trauma intensive care: severe and/or multitrauma (L1 topic)

Discussion:

This question aimed to assess candidates' understanding of high voltage electrocution related injuries. A standard answer was expected to include a spectrum of electrical injuries, including burns, and other trauma related injuries alongside relevant examination findings.

Candidates who did not recognise the complexity of injuries, particularly the potential of deep tissue injuries, electrical burns and cardiac sequelae of electrical injuries missed the key aspects of the question. Additionally, the below standard responses lacked the corresponding examination findings that were explicitly requested. Candidates are reminded to read the stem and follow the directions given to ensure maximum marks.

Given the broad range of potential injuries, a structured approach - such as organising the answer by system (e.g., cardiovascular, respiratory, neurological) or injury type (e.g., electrical injuries, traumatic injuries) - could have enhanced clarity and completeness. Using tabular format to align injuries with corresponding examination findings could have further strengthened the responses and demonstrated a systematic approach.

The rubric is provided to aid the candidate's future study.

Rubric *over page*

	Below standard	At standard	Above standard
a) injuries **(10 marks)**	Limited detail without a logical systems base And /or only concentrating on one type of injury in this patient OR Inaccurate or generic only list of injuries **0 - 4.5 marks**	The at standard answer will contain a mix of traumatic AND burn or electrical injury pattern (at least 2/3 pattern types) Reasonable depth of examination findings specific to each injury **Must mention deep tissue injuries from electrical burn as part of at standard answer as this is a key feature of a high voltage electrical burn** **5 - 7 marks**	**At standard PLUS** All forms of injury patterns present (traumatic -from being thrown and CPR), AND burn AND electrical injury patterns) May include mention of HIE 2' to LOC Detailed examination findings matched to injuries, detail would include specifications of burns , characteristics of high voltage electrical injury and detailed list of trauma sustained after a vertical deceleration injury +/_ complications of trauma **7.5 - 10 marks**

Angoff score for this SAQ	4.68
Highest candidate score achieved	6.00
Angoff pass rate	39.7%

Question 23

A critically unwell 68-year-old patient is severely hypoxic post intubation. You perform a lung ultrasound at the bedside.

a) Outline the lung ultrasound findings that help you to differentiate between potential causes of hypoxia in this patient

(5 marks)

b) Outline the advantages and disadvantages of lung ultrasound in ICU

(5 marks)

Syllabus topic/section: 2.1.5.a Respiratory Intensive Care L2 topic: Chest Ultrasound

Discussion:

The question assessed candidates' understanding of the application of lung ultrasound in a hypoxic patient post-intubation, as well as its general advantages and disadvantages. A standard response was expected to include potential causes - such as pneumothorax, collapse or consolidation - and describe their characteristic appearance on lung ultrasound.

While most candidates demonstrated some familiarity with lung ultrasound terminology, most responses revealed significant knowledge gaps, particularly in differentiating between causes. Higher scoring answers used standard ultrasound descriptors and clearly explained how to identify specific pathologies. For example, diagnosing pneumothorax was described with use of appropriate ultrasound findings like absent lung sliding and presence of lung point.

Some candidates confused ultrasound B-lines with radiographic Kerley B-lines, and M-mode findings were often misinterpreted in the context of pneumothorax. Complex effusions were incorrectly described to represent empyema by some candidates.

It is important to note that the question focused specifically on lung ultrasound; therefore, references to focused echocardiography were not credited. Additionally, in Part b), some candidates repeated the same points as both advantages and disadvantages (e.g., "cheap" vs "expensive", "portable" vs "difficult to move" machines) which waste time and space which could have been given to more discriminating facts.

Angoff score for this SAQ	3.87
Highest candidate score achieved	4.50
Angoff pass rate	74.6%

Question 24

Discuss the role of decompressive hemicraniectomy following a middle cerebral artery infarction.
In your answer, include the evidence for this practice.

(10 marks)

Syllabus topic/section: 2.1.8 Neurological Intensive Care L1 condition: acute cerebrovascular injury

Discussion:

This question invited candidates to discuss decompressive hemicraniectomy following middle cerebral artery infarction. A standard response was expected to cover the key principles, explore relevant controversies with advantages and disadvantages, and summarise current evidence.

Candidates who addressed the major domains outlined in the glossary of terms for a “discuss” question generally performed well. Those who incorporated evidence from individual trials and pooled analyses demonstrated a deeper understanding and scored higher than those who simply listed trial names. Responses that referenced evidence from decompressive craniectomy for traumatic brain injury or mechanical thrombectomy in stroke were not credited, as these were outside the scope of the question.

Answers that included vague statements - such as “decompressive craniectomy would be provided on a case-by-case basis”- without elaborating on the clinical factors guiding such decisions did not score as highly as candidates who gave a rationale for decision making.

Candidates must be careful with language/symbols that can be confused in the heat of the exam; for instance, symbols like “<” and “>” were incorrectly used by some candidates. Similarly, the terms morbidity and mortality were used interchangeably while summarising evidence.

Angoff score for this SAQ	4.75
Highest candidate score achieved	6.00
Angoff pass rate	38.1%

Question 25

With respect to Therapeutic Plasma Exchange (TPE):

a) List **four** indications and explain the rationale for each indication

(4 marks)

b) List the significant complications of TPE (excluding vascular access issues) and outline the strategies utilised to address them.

(6 marks)

Syllabus topic/section: 2.1.10 Immunological and Rheumatological Intensive Care L2 topic: Plasma exchange modalities

Discussion:

This question evaluated candidates' understanding of therapeutic plasma exchange. A standard answer was expected to include four appropriate indications, each supported by a clear rationale, along with important complications and preventative strategies.

Most candidates successfully mentioned three or four indications; however, the rationale behind the use of TPE was not clearly articulated. Candidates who included incorrect indications or confused TPE with other extracorporeal therapies tended to score lower. No additional marks were awarded for listing more than four indications, as the question specifically requested four.

Despite clear instructions to exclude vascular access issues, some candidates included these as complications, which did not attract marks. While many candidates missed at least one of the major expected complications, several provided other relevant complications that were credited appropriately. Responses that were only wordy but lacked specific details did not gain additional marks. Complications of TPE include transfusion reactions (anaphylactoid, haemolytic, TRALI) volume overload, hypothermia and hypocalcaemia among others.

Angoff score for this SAQ	5.36
Highest candidate score achieved	5.50
Angoff pass rate	47.6%

Question 26

Discuss the use of inhaled pulmonary vasodilators in critically ill adult patients.

(10 marks)

Syllabus topic/section: 2.1.21 Applied Pharmacology in Intensive Care; Respiratory: Pulmonary vasodilators

Discussion:

In general, most candidates had answers that were reasonable, but some lacked in-depth knowledge of the use of pulmonary vasodilators.

A discussion of a therapies should include rationale, pathophysiology, advantages and disadvantages as outlined in the glossary of terms for "Discuss" SAQs.

Some candidates only discussed iNO; the question was about *inhaled* pulmonary vasodilators; candidates are reminded that Prostacyclin / analogues are also inhaled (nebulised) medications.

To attain a passing mark, candidates needed to describe key principles in hypoxemic respiratory failure and should have mentioned hypoxemic respiratory failure in ARDS AND 1-2 other appropriate indications. Discussion points that needed to be included: local action and minimal systemic effect for advantages; specialised equipment and cost in disadvantages; description of some limitations (e.g. limited mortality benefit; limited oxygenation response). Adding headings would aid in scoring more marks.

Higher marks were obtained if in addition, candidates expanded in more depth on disadvantages and limitations (e.g. rebound PHT on abrupt withdrawal; *association* of renal failure with iNO use).

The rubric is provided to aid the candidate's future study.

Rubric

	Below standard	At standard	Above standard
Discuss the use of inhaled pulmonary vasodilators in critically ill adult patients. **10 marks**	Does not attempt OR poor understanding of principles OR only mentions hypoxemic respiratory failure (ARDS) for indications OR provides minimal information (e.g. only mentions duration of action or cost for advantages or disadvantages) OR does not mention limitations/risks **0-4.5 marks**	Must describe key principles in hypoxemic respiratory failure. Should mention hypoxemic resp failure in ARDS AND 1-2 other appropriate indications Discussion points include: – mentions local action and minimal systemic effect for advantages; specialised equipment and cost in disadvantages; describes some limitations (limited mortality benefit; limited oxygenation response) **5 - 7.5 marks**	**at STANDARD PLUS** Describes all the underlying principles (respiratory AND cardiac) and lists most indications. Names ≥ 2 agents. expands in more depth on disadvantages and limitations (eg rebound PHT on abrupt withdrawal; association with renal failure and iNO use) **8 - 10 marks**

Angoff score for this SAQ	4.84
Highest candidate score achieved	6.00
Angoff pass rate	77.8%

Question 27

With regard to necrotising fasciitis:

a) List the empirical antibiotics and provide a rationale

(4 marks)

b) Outline the role of:

i. Surgery
ii. Intravenous immunoglobulin
iii. Hyperbaric oxygen therapy

(6 marks)

Syllabus topic/section: 2.1.3 Sepsis and Infections; L1 condition: Rarer Infections with specific ICU considerations - necrotising soft tissue infections.

Discussion:

Candidates who were able to describe the different types of necrotising fasciitis (types 1-3) in part a) were rewarded as the rationale for antibiotics is predicated by type. Answers which were not successful displayed poor synthesis of knowledge, insufficient details or did not address the question asked.

The role of surgery was well described in most cases however some candidates were unable to display an at standard knowledge of the mechanism of effects and rationale for IVIG (e.g., activation of complement, promotion for antibody dependent cytotoxicity, reduction of IL-6 and TNF-alpha production, inhibits superantigen etc) and HBOT (e.g., minimise tissue loss, decrease the number of limb amputations and reduce deaths; increases oxygen supply to the hypoxic infected tissues- generates reactive oxygen species leading to bacteriostatic or bactericidal effects, particularly on anaerobic organisms; suppresses production of cytokines and inflammatory mediators).

Angoff score for this SAQ	4.36
Highest candidate score achieved	4.50
Angoff pass rate	52.4%

Question 28

With regard to long term, conscious intensive care patients who have a tracheostomy:

a) Discuss the consequences of inadequate communication between staff and these patients

(4 marks)

b) Outline techniques to improve communication in these patients

(6 marks)

Syllabus topic/section: 2.2.1 Communication and collaboration in Intensive Care: Topic - Communication with patients as part of care in the ICU.

Discussion:

This is an essential topic. Good candidates could demonstrate the ability to have an in-depth discussion of consequences of long-term ICU care including relevant aspects of patient centred care, issues with decision making, dealing with negative emotions, sentinel events/adverse events and quality of life, as related to communication.

Specific strategies to improve marks could include a comprehensive outline of both nonverbal (e.g., writing, mouthing, gestures, switches and many more) and verbal methods of communication, with an emphasis on verbal techniques *specific* to patients with a tracheostomy (cuff inflated, ventilated; cuff deflated, not ventilated).

Angoff score for this SAQ	4.81
Highest candidate score achieved	6.00
Angoff pass rate	46%

Question 29

Discuss early active mobilisation in the general intensive care unit.

(10 marks)

Syllabus topic/section: 2.1 Medical Expert: Management including supportive treatment (2.1.3-18)

Discussion:

Overall, this was a well answered question, and the candidates had a good knowledge of the rationale behind early mobilisation and the potential benefits.

Good answers utilised the glossary, addressed advantages (including neuromuscular, functional, physiological, outcomes), disadvantages (risks including disconnections, dislodgements) and controversies with regards to early active mobilisation. Some synthesis of current evidence, describing limitations (many small, single-centre trials; heterogenous patient populations; complex/variable interventions groups in terms of type/timing/duration/dose; differing outcome measures) and variability in outcomes was required to score well.

Candidates are reminded to pay attention to their handwriting especially towards the end of the examination.

The rubric is included to aid the candidate's future study.

Rubric

	Below standard	At standard	Above standard
Discuss early active mobilisation in the general intensive care unit. (10 marks)	Superficial or incorrect answer limited to neuromuscular benefits only Limited appreciation of evidence, outcomes and limitations. Advantages and disadvantages **0-4.5 marks**	List some neuromuscular, physiological and functional benefits Mentions falls, disconnections and some cardiorespiratory risks Able to state some outcomes from trials and challenges in interpretation of evidence. **5- 7 marks**	**At standard PLUS** Comprehensive list of benefits including most categories listed. Must include neuromuscular. Comprehensive list of potential risks (most listed) Excellent synthesis of evidence, describing limitations and variability in outcomes. Able to identify most specific outcome benefits and at least one trial. **7.5 – 10 marks**

Angoff score for this SAQ	4.24
Highest candidate score achieved	6.00
Angoff pass rate	66.7%

Question 30

30.1 A 40-year-old previously well patient presents with a ruptured appendix and associated peritonitis. They return to theatre day 3 with ischaemic colitis requiring a right hemicolectomy. At laparotomy, there is extensive thrombosis in the superior mesenteric vein and portal vein. Attempts to anticoagulate the patient with heparin day 5 onwards have been unsuccessful.

The post-operative haematology results are as follows:

	Day 0	Day 1	Day 3	Day 5	Day 7	Day 9	Reference
INR	1.2	1.7	1.8	1.6			0.8 – 1.3 seconds
APTT	36	38	36	**28***	**31***	**37***	24 – 35 seconds
Fibrinogen	5.8	1.8	1.4	1.7			2.0 – 5.0 g/L
INR mix		1.9					0.8 – 1.3 seconds
APTT mix		32.5					30 – 40 seconds
D dimer		>4.0					< 0.5 mg/L

* On I.V. heparin
APTT therapeutic range for I.V. heparin therapy: 60 – 90 seconds

Additional tests performed on Day 7:

- Tests of hypercoagulability (plasma)

  Antithrombin (functional) 20% (Reference: 80 – 120%)
- Factor assays (plasma)

  Factor VIII 4.10 IU/ml (Reference: 0.5 – 1.5)
- Anti-Factor Xa assay (plasma)

  Anti-Factor Xa 0 IU/ml (Reference for IV heparin therapy: 0.3 – 0.7)

a) List the possible factors preventing therapeutic anticoagulation in this patient

(2 marks)

b) List **two** strategies to achieve anticoagulation with intravenous heparin

(2 marks)

QUESTION 30 Continued on Next Page

30.2 A 28-year-old patient presented with a persistent epistaxis to the Emergency Department. The coagulation profile was as follows:

Parameter	Patient	Reference
INR	1.2	0.8 – 1.2
APTT*	50 seconds	25 – 39
Platelets	250 X 10^9 / L	150 – 350
Bleeding time*	16 minutes	2 – 8
Fibrinogen	3 g/L	1.5 – 4
FDPs	< 10 mg/L	0 – 10
Thrombin clotting time	15 seconds	12 – 17

a) Give the most likely diagnosis

(1 mark)

b) List **<u>two</u>** investigations to confirm the diagnosis

(2 marks)

30.3 A 50-year-old patient with a right deep vein thrombosis and haemoptysis. These blood results are from admission:

Parameter	Patient	Reference
PT	12 seconds	12 – 14
APTT*	69 seconds	34 – 38
Thrombin time	16 seconds	14 – 18
APTT mixing test	60 seconds	

Explain the APTT mixing test and outline its significance in this patient

(3 marks)

Syllabus topic/section: 2.1.11 Haematological and Oncological Intensive Care

Discussion:

This was a repeat question and so a higher standard of performance was required. Poorly performing candidates frequently gave an incorrect interpretation for section 30.2 and/or failed to explain the mixing test in section 30.3. The relevance of normal tests in the questions were often misinterpreted or missed in the explanations candidates provided.

Angoff score for this SAQ	5.29
Highest candidate score achieved	6.00
Angoff pass rate	41.3%

The report continues on the next page.

SECOND PART ORAL EXAMINATION

CLINICAL "HOT CASES" SECTION

EXAMINERS' COMMENTS

The hot cases run for twenty minutes with an additional two minutes at the start of each case for the candidate to be given both a verbal and a written introduction to the case in question. This is to give candidates more opportunity to take in the relevant information and to plan a focussed approach to examination of the patient.

The following comments are a guide to the expected standard for performance in the hot cases:

- Candidates should demonstrate professional behaviour, treating the patient with consideration and respect.
- Candidates should address and answer the question asked of them in the introduction to the hot case.
- Candidates should interpret and synthesise information as opposed to just describing the clinical findings.
- Candidates need to seek information relevant to the clinical case in question.
- Candidates should be able to provide a sensible differential diagnosis and appropriate management plan. A definitive diagnosis is not always expected and, in some cases, may yet to be determined.
- Candidates should not rely on a template answer or key phrases but answer questions in the context of the clinical case in question.
- Candidates must be able to describe, with justification, their own practice for specific management issues.

Candidates who performed well in the hot cases, as in previous exams, were able to demonstrate the following:

- A professional approach showing respect and consideration for the patient.
- Competent, efficient, and structured examination technique and able to appropriately adapt the examination to suit the clinical case in question.
- Seeking of information relevant to the case.
- Appropriate interpretation and synthesis of their findings.
- Presentation of their conclusions in a concise and systematic fashion, addressing the issue in question.
- Listing of a differential diagnosis that is relevant to the clinical case in question.
- Appropriate interpretation of relevant investigations.
- Discussion of management issues in a mature fashion, displaying confident and competent decision-making.
- An appreciation of the complexities and key issues of the case.
- Overall performance at the expected level (transitional fellow).

Candidates who did not perform at the acceptable standard did so for reasons including the following:

- Missing or misinterpreting key clinical signs or confabulating signs on examination.
- Failure to perform a focussed examination relevant to the case in question.
- Incomplete or poor technique for examination of a system
- Causing pain, distress or potential harm to a patient due to rough technique or an inconsiderate examination.
- Poor synthesis of findings with limited differential diagnosis, sometimes compounded by missed key clinical signs on examination.

- Poor interpretation of imaging and data.
- Failure to demonstrate understanding of the key issues relevant to the case in question and a lack of insight into the problems.
- Inability to construct an appropriate management plan for the case in question.
- Hesitancy and/or uncertainty in stating a management plan.
- The need for significant prompting during the discussion with knowledge gaps.
- Limited time for discussion as a consequence of taking too long to present the clinical findings or to interpret basic data.
- Inability to convey the impression that they could safely take charge of the unit.

It is apparent that some candidates are very nervous, and this may adversely affect their exam performance. Candidates badly affected by nerves may benefit from sessions with a performance psychologist, drama coach, public speaking coach or similar.

Candidates are advised that they should not attempt the Second Part Examination until they can confidently examine patients, present the relevant clinical findings, synthesise all the information and discuss management issues at the appropriate level**, which is a trainee who is ready to enter the transition year of the CICM training program, by demonstrating they have the ability for safe, effective, independent practice as a transitional fellow.** Candidates who have not yet attained this level of experience are strongly encouraged to defer their attempt at the exam. Candidates should practise hot cases from the commencement of their exam preparation. To this end, candidates are encouraged to do the following in their daily clinical practice as preparation for the hot cases:

- Seek the opportunity to take charge of the unit and be responsible for management decisions.
- Practise examination of individual systems.
- Treat every case to be assessed at work as a hot case, i.e., pose a relevant question (*e.g., 'Why is this patient not progressing?' 'What is the cause of the new fever?' 'Is this patient ready for extubation?*'), perform a focussed exam and then present your findings to a colleague.

SUMMARY OF CLINICAL "HOT CASES"

The clinical 'hot cases' require candidates to assess patients currently in the ICU, regarding answering specific questions around clinical assessment, including diagnosis, relevant investigations, and aspects of management. Five examples of clinical 'hot case' questions from this examination sitting are given below.

- *A 28-yr-old man is Day 30 after MBA vs Car with head and abdominal trauma. He has no known background medical history. He is intubated and ventilated and spiked a fever up to 39.2 degrees last night. Please examine this patient to assess the cause of his fever*

- *A 43-yr-old man is Day 7 following an out-of-hospital cardiac arrest following a respiratory arrest associated with heroin use. He has a significant background medical history of epilepsy, intravenous drug use and hepatitis C (untreated). He is currently intubated, agitated, and mechanically restrained. Please examine him with regards to discussing his neurological prognosis.*

- *A 45-yr-old man is Day 4 after presenting with 2 days of Right facial pain requiring an emergent oral-Maxillofacial surgical intervention. He has a background history of TI2DM, a schizoaffective disorder on depot antipsychotic (Aripiprazole) and obesity. He is currently intubated and ventilated. Please examine and formulate a plan for extubation.*

- *A 63-yr-old man is Day 32 ICU he has T cell lymphoblastic lymphoma, 40 days post allogenic stem cell transplant with a Stenotrophomonas bacteraemia diagnosed 12 days ago. He has resolving MOF and is off all organ support for 12 days. He was previously an active retired handy man with dyslipidaemia as his only prior medical history. He has a tracheostomy in situ. How would you advance the overall management of this patient?*

- *A 42-yr-old man is Day 2 ICU after presenting with a left sided weakness. He had a failed embolectomy for an ischaemic stroke and underwent an emergency craniotomy. He has a background history of hyperlipidemia and thyroid surgery. He is intubated and ventilated. Please examine this patient and outline your management priorities for the next 24-48 hours.*

The clinical hot cases were examined at CICM accredited Intensive Care Units in Melbourne, VIC on Wednesday 21st May 2025.

The report continues on the next page.

VIVAS

The overall pass rate for the vivas was 82%, compared with 66% for the written paper and 62.5% for the hot cases. Failure to pass a viva was often due to knowledge gaps, poorly structured answers, and an inability to give the rationale for their responses. As in the discussion for the hot cases, candidates should not rely solely on generic statements, key-phrases, and template answers, and, instead, tailor their responses to the specifics of the question and be able to justify and expand their response.

Candidates are encouraged to practise viva technique and to discuss patient management, including the rationale for their decisions, with senior colleagues. As with the hot cases, candidates who are very nervous or have a poor technique may benefit from training with a performance coach.

VIVA STEMS ***over page***

DAY 1 – THURSDAY 22nd MAY 2025

Viva 1

A 58-year-old presents with Stanford Type A dissection extending into the descending aorta.
The patient undergoes emergency total arch replacement with distal stent, requiring cardiopulmonary bypass for 320 minutes, 40 minutes of deep hypothermic circulatory arrest (DHCA) at 22°C.
On arrival to ICU post-operatively:

- They are sedated to RASS -5, ventilated and on noradrenaline 0.25 µg/kg/min. Lactate is 5.8 mmol/L.
- Urine output is 10 mL in the first hour.
- Temperature is 33.5°C.
- Drain output is 500 mL in the first hour.

Please outline your cardiovascular management on ICU admission.

Syllabus topic/section:
2.1.18 L1 Cardiac surgery including aortic surgery
2.1.8 L1 Seizure management

Viva summary:
Issues of post cardiac surgery of aortic arch repair during ICU admission were explored including the rationale, risk factors and complications of deep hypothermic circulatory arrest (DHCA).
Candidates were asked to demonstrate knowledge of managing post operative issues including re-warming, and complications of arch surgery including impaired perfusion to end organs.

Candidates did well if they:

- Answered questions in a focused and succinct manner which allowed them to move quickly through the content.
- Applied answers to the patient in the stem.
- Were familiar with the concepts in cardiac anaesthesia as it applies to ICU management, specifically DHCA and the physiological rationale for neuroprotection. Even if candidates were not familiar with cardiac anaesthesia, they were still able to do well by extrapolating from other situations involving hypothermia or using first principles.
- Had a comprehensive and systemic approach to seizures in the context of arch surgery.

Candidates achieved less marks if they:

- Took a generic approach to the patient instead of tailoring the information given.
- Became mired in minutiae and did not respond to prompts to move on, wasting time.
- Lacked sufficient detail explaining the targets of physiological and transfusion end points.
- Covered ground in only superficial detail, not at the standard of a transitional fellow.
- Failed to demonstrate knowledge of a safe rewarming technique.

Maximum Score	8.25
Percentage Passed	48%

Viva 2

An 82-year-old is admitted to the ICU following a fall from a standing height.

- They have had appropriate imaging and resuscitation.
- The only identified injury is a small temporoparietal contusion, intraventricular haemorrhage with no mass effect.
- They are currently stable, intubated, ventilated, sedated and supported with low-dose noradrenaline to maintain a mean arterial pressure of 65mmHg.
- Neurosurgical review is pending.

Outline the issues and your further assessment of this patient.

Syllabus topic/section:
2.1.8 Neurological Intensive Care, L1
2.1.16 Populations requiring special considerations in Intensive Care

Viva summary:
Neurosurgical trauma in the elderly post fall was explored.
Candidates were asked to demonstrate assessment principles of TBI, use of neuromonitoring techniques and issues of prognostication.

Candidates did well if they:

- Had a structured approach to trauma, understood the significance of intraventricular hemorrhage and risk of hydrocephalus.
- Were familiar with the BTF guidelines AND were able to contextualize to the patient under discussion.
- Considered the aetiology of the fall and identified atypical features of IVH in an unconscious patient.
- Considered age and identified need for consideration of ceiling of care.
- Demonstrated familiarity with use of EVD and troubleshooting by a clear hands-on approach demonstrating lived experience.

Candidates achieved less marks if they:

- Did not use a multimodal approach to assess TBI severity.
- Provided generic trauma responses /ATLS/BTF approach without considering age, comorbidities and other factors potentially influencing treatment.
- Did not commit to a management plan and failed to justify decision making in the case described.

Maximum Score	8.00
Percentage Passed	57%

Viva 3 - Radiology Station

Syllabus topic/section:
2.1.20 Radiology in Intensive Care
2.1.5 L1, 2.1.5 L2, 2.1.18 L1, 2.1.6 L1, 2.1.13 L1, 2.1.17 L2

VIVA summary:
Radiology: CXR x4, (VV ECMO, CTS, acute on chronic respiratory failure, paediatric sepsis)
CT abdomen/pelvis with necrotising pancreatitis, multiple drains, haemorrhage with contrast blush, CT brain post TBI.

Candidates did well if they:

- Paid attention to the stem provided and were able to correlate the stem with the findings on imaging.
- Had a structured approach to the scans.
- Took time to consider before speaking and evaluating the scans, allowing the candidate to be more accurate.
- Used the correct anatomical framework to localise findings.
- Were able to use the suggested time allocation appropriately.
- Clearly were comfortable describing imaging in a precise manner as if they were describing imaging to a colleague over the phone.

Candidates achieved less marks if they:

- Did not describe the findings anatomically.
- Used a “scattergun approach” and missed major findings.
- Mistakenly identified the side with respect to the pathology.
- Used slang language which is inaccurate and not professional e.g., “white-out” “tight brain”.
- Stopped evaluating the scans after finding the first pathology (there are always multi-pathologies).
- Did not demonstrate familiarity reporting scans (particularly with CT head and abdominal scans). Incorrect anatomy identified.
- Fixated on hardware and missed major pathologies.

Tips:
Answer the question asked. Practice interpreting radiology daily during ward rounds using correct terminology. Concentrate on the overall picture before diving into minutiae.

Maximum Score	6.90
Percentage Passed	32%

Viva 4 – Procedure Station

THIS IS THE PROCEDURE VIVA

You are working as the on-call Intensivist in a small regional hospital. A 65-year-old patient has presented with dyspnoea and chest pain. A CTPA has been performed, which is negative for pulmonary embolism but shows a large pericardial effusion.
Outline the assessment you will undertake to decide whether emergency pericardiocentesis is indicated.

Syllabus topic/section:
2.1.19 Intensive Care Procedures, L1 = cardiac procedures *(*pericardiocentesis)
2.1.19 L2 (echo)
2.1.4 L1

Viva Summary:
Procedure: Pericardiocentesis

Candidates did well if they:

- Used the glossary of terms for headings (e.g., Assessment is Hx, Ex, Ix).
- Were factually correct and comfortable with the safety aspects of the procedure to avoid complications.
- Were clear in differentiating obstructive shock from other causes of shock.
- Were able to give clear rationales for decision making.
- Gave relevant assessment of the patient.
- Clearly distinguished between acute versus chronic effusion and articulated why it matters.

Candidates achieved less marks if they:

- Were unable to contextualise the patient and provided a generic, disorganised or irrelevant assessment to inform the decision for pericardiocentesis.
- Could not describe anatomical landmarks or specific features of ultrasound or clinical signs of tamponade. gave a non-specific discussion of haemodynamic instability.
- Were unable to give a rationale for their approach.
- Had total reliance on the U/S and lacked knowledge of landmarks or procedural issues.
- Were unfamiliar with complications of the procedure and emergency interventions.
- Demonstrated unsafe technique.

Maximum Score	8.50
Percentage Passed	68%

DAY 2 – FRIDAY 25th OCTOBER 2024

Viva 5

A 65 year old patient has been admitted to the ICU following an Ivor Lewis oesophagectomy. They have been extubated and are hemodynamically stable.
Which features on assessment are most predictive of an increased risk of perioperative complications?

Syllabus topic/section:
2.1.18 (Peri-operative intensive care), L1

Viva summary:
Candidates were asked to demonstrate proficiency in ICU management of an Ivor Lewis oesophagectomy patient with medical and surgical complications, including chyle leak, arrhythmias and anastomotic breakdown.

Candidates did well if they:

- Showed familiarity with post oesophagectomy ICU management by using specific facts and not generic answers including ABCDE.
- Were able to articulate the management of complications (AF, anastomotic leak) in a structured and organised fashion.
- Were able to show mastery of assessment and used the glossary of terms guiding what information is required. Explained their clinical reasoning.

Candidates achieved less marks if they:

- Did not show prioritisation of post-operative issues to address.
- Lacked structure to get the relevant information out efficiently and with sufficient detail.
- Required lots of prompts to stay on track and answer the questions asked.
- Were unfamiliar with content and repeated statements that didn't add value.
- Failed to consider important intra-operative factors for predicting risk following the procedure.
- Failed to consider Chylothorax in the differential diagnosis.
- Did not contextualise (e.g., the management of AF is different in the medical vs the postop Ivor-Lewis patient).

Maximum Score	9.50
Percentage Passed	59%

Viva 6

You are called to the Emergency Department (ED) to manage an 18-year-old patient who has been intubated for acute, severe asthma.
Intubation by the ED team was uneventful. Current vital signs: HR 128/min, BP 92/55, SpO2 94%.
Ventilation settings: F*i*O_2 45%, PEEP 5, tidal volume 560 mL (8 mL/kg),
Respiratory rate 14/min, T*i* 1.4 s, I:E ratio 1:2, peak inspiratory pressure 52cmH_2O.
The ED team are concerned that the patient is difficult to ventilate.
Outline the ventilator settings you will use to optimise this patient's ventilation? Outline your rationale for each setting.

Syllabus topic/section:
2.1.5, L1 Respiratory Intensive Care
2.1.1, L1 (transport)

Viva summary:
Initial and ongoing management of acute severe asthma ventilation including the rationale of parameters chosen during ICU management. Issues of transportation of the critically ill patient. Indications for ECMO referral in the setting of acute severe asthma.

Candidates did well if they:
- Showed familiarity with the specifics of ventilation and were able to explain their justification.
- Read the stem and provided a CLEAR rationale for each action.
- Candidates with real-world experience who were able to effectively demonstrate performed well in this viva.
- Showed appreciation of the challenging dynamic between dynamic hyperinflation, injurious ventilation and hypercapnia.

Candidates achieved less marks if they:
- Provided generic approach to ventilation. Failed to demonstrate the importance of "fine tuning" ventilation in a rapidly changing pathology such as asthma.
- Failed to demonstrate knowledge of indications for ECMO.
- Presented unsafe or superficial plan for transport, failing to identify the high-risk nature of transfer or explain why it was risky.
- Failed to demonstrate familiarity with the college document IC-10 Guidelines for the transportation of critically ill patients – candidates are expected to be well-acquainted with the college documents and recommendations
- Adopted a disorganized approach to troubleshooting ventilator alarms.
- Showed poor consideration of complications relating to dynamic hyperinflation/gas trapping, many spoke of gas trapping but did not think about the barotrauma complications/air leaks.

Maximum Score	7.75
Percentage Passed	52%

Viva 7

38-year-old patient, 35 weeks pregnant
Past Medical History: Rheumatic Heart Disease
1 day history of worsening central abdominal pain, nausea and vomiting with abdominal tenderness.
Admitted to ICU with an on-going metaraminol infusion despite 2L of fluid.
Current vital signs:
Temp 37.8
BP 90 / 65 mmHg
PR 110bpm sinus rhythm
Sats 94% on RA
RR 28
What are the differential diagnoses for the abdominal pain that are most concerning?

Syllabus topic/section:
2.1.12; L1 Obstetric Intensive care
2.1.4 L1 Cardiovascular Intensive Care, valvular heart disease

Viva Summary:
Abdominal sepsis in the late term pregnancy patient.
Candidates were asked to explore Issues of assessment including the advantages and disadvantages of radiological investigations in the setting of an obstetric patient. Maternal physiology and its impact on the cardiovascular system in sepsis and in the presence of cardiac lesions (mitral stenosis and pulmonary hypertension).

Candidates did well if they:

- Were able to prioritise pregnancy and non-pregnancy differential.
- Were able to further categorise critical and non-critical pathologies.
- Demonstrated an understanding of how normal pregnancy physiology and anatomy can impact the diagnosis of sepsis and cardiac lesions.
- Had a nuanced approach to management of Mitral stenosis.

Candidates achieved less marks if they:

- Failed to provide relevant obstetric and non-obstetric causes of abdominal pain e.g., labor/ PROM or placental abruption.
- Provided a generic management strategy without considering the specifics of the patient. displayed limited content knowledge of pathophysiology leading to an unsafe approach.
- Did not understand the significance of pulmonary hypertension, e.g., increased morbidity and mortality.

Maximum Score	9.00
Percentage Passed	45%

Viva 8 – Communication Station

You are the Senior ICU Outreach Doctor and have been called to preadmission clinic to meet with "Alex" regarding post-operative ICU admission.
Alex has a new diagnosis of symptomatic obstructing colonic malignancy. Alex has consented to a palliative bypass procedure with stoma formation under general and epidural anaesthesia due to obstructive symptoms and non-resectable disease. This has been arranged for 2-weeks' time and Alex is anticipated to come to ICU/HDU extubated post-operatively.
Alex has a background of motor neurone disease diagnosed 1 year prior.
Discuss with Alex the role of ICU post-operatively.

Syllabus topic/section:
2.2.1 Communication and collaboration in Intensive Care

Viva Summary:
Communication – The patient has motor neuron disease and is facing potential high-risk surgery for palliative relief of symptoms of bowel cancer. Candidates were asked to demonstrate competence in Issues of informed consent and conduct a patient orientated discussion of goals of care.

Candidates did well if they:

- Explored the patients' health issues, functional status, and understanding before launching in the explanations and plan.
- Used effective communication strategies such as signposting, open questions, and active listening.
- Were able to gain and build rapid rapport and establish a professional yet empathic relationship.
- Set clear goals at the start of the meeting.
- Considered social support.
- Were able to explain the ICU environment and potential challenges that may arise.
- Strong candidates had a clear strategy that included background information, clinical issues, proposed ICU management and 'what-if' scenarios, while ensuring the discussion remained interactive rather than one-sided.

Candidates achieved less marks if they:

- Made assumptions about the patient's history/ values/ goals and concerns as opposed to exploring them.
- Took an overtly negative or positive position in the issues and risk of complications.
- Actively avoided discussing more difficult topics (e.g., complications of the procedure), especially when this persisted despite prompting from the actor.
- Engaged in a pleasant conversation but did not attempt to explore the actor's values and preferences.
- Used medical jargon or discussed only medical / general aspects of care without a specific ICU focus.
- Dominated the conversation, spoke more than the patient, and pressured them into making end-of-life decisions.

Maximum Score	10.00
Percentage Passed	52%