



AUSTRALASIAN COLLEGE FOR EMERGENCY MEDICINE 42nd FELLOWSHIP EXAMINATION REPORT August / October 2008

This report is circulated to:

- candidates – successful and unsuccessful
- examiners involved in the exam – written, clinical and observers
- DEMTs across Australasia
- official observers (listed on Page 2)
- clinical site organisers for this exam

The report is not confidential and its wide dissemination is encouraged.

The questions alone (without examiner comments or answers) are published in Past Papers, which are available to all trainees from the College. Recent previous exam reports are available on the college website.

1. INTRODUCTION

The 2008.2 exam was held on 6 August (written sections – all regions) and on 18 and 19 October (clinical sections – Perth). The clinicals were held at 2 sites (Sir Charles Gairdner Hospital and Joondalup Health Campus for the Long and Short Cases and Sir Charles Gairdner Hospital for the SCEs)

Overall, 46 candidates passed the examination from the 81 who sat the written sections (overall pass rate 56.8%). More detailed analysis of pass rates is included in subsequent sections of this report.

2. EXAMINERS

Examining in the fellowship exam is a substantial commitment in time. All of the examiners are thanked for their efforts. The examiners were:

Writtens only

Peter Aitken
Neil Banham
Peter Cameron

Adam Chan
David Green
Anne-Maree Kelly

Scott Pearson
Pamela Rosengarten

Clinicals only

Sylvia Andrew-Starkey
Matthew Chu
Bill Croker
Chris Curry
Linda Dann
Bob Dunn

David Eddey
Tim Gray
Wayne Hazell
Trevor Jackson
David Mountain
Drew Richardson

Ian Rogers
Andrew Singer
Mark Webb
Bryan Walpole
Allen Yuen

Writtens and Clinicals

Philip Aplin
Michael Bastick
Tony Brown
Gary Browne
Sheila Bryan
James Collier
Steve Dunjey
Diana Egerton-Warburton

Bernard Foley
Anna Holdgate
Tony Joseph
Diane King
David Kirkpatrick
David Lightfoot
Paul Mark
Greg McDonald

Lindsay Murray
Tonia Nicholson
David Richards
Mark Smith
David Symmons
James Taylor
Garry Wilkes
Kim Yates

Peer Support Examiners

Allen Yuen

Bryan Walpole

3. OBSERVERS

The official observers were Doctors:

Phillip Richardson (Royal Brisbane & Women's Hospital)

Jamie Thomas (Royal Brisbane & Women's Hospital)

Don Liew (Royal Melbourne Hospital)

Belinda Leigh (Lyell McEwin Health Service)

Chanh Huynh (Royal Adelaide Hospital)

4. MULTIPLE CHOICE QUESTIONS

65/81 (80.2%) candidates passed the MCQ section of the exam. To achieve this a candidate has to pass 33/60 questions (55%). The mean score obtained was 38.7 (SD \pm 5.7). The grade frequencies were:

Grade (/ 10)	Frequency (N)
9	2
8	6
7	14
6	20
5	23
4	13
3	3

5. SHORT ANSWER QUESTIONS

62/81 (76.5%) candidates passed the SAQ section of the exam. To achieve this a candidate has to pass 5 or more of the 8 questions with a total mark of at least 40 / 80. The grade frequencies were:

Grade (/ 10)	Frequency (N)
8	7
7	18
6	22
5	15
4	14
3	5

SAQ 1

A 52 year old woman presents with atypical chest pain and a normal ECG.

What features on assessment would influence the disposition of this patient? (100%)

The overall pass rate for this question was 51/81 (63%).

The examiners felt that this was a good question in that it tested a topical and common area in Emergency Medicine. Good answers suggested a structure for ACS stratification and recognised the wide differential of chest pain. The best answers demonstrated knowledge of recently published guidelines (Cardiac Society, TIMI). Poor answers either failed to answer the question or did not mention serial ECG/Cardiac Enzymes as part of the risk stratification.

SAQ 2

You have been called to assist a junior doctor dealing with an upset family. The family is unhappy with the proposal of a “Do Not Resuscitate” order for their elderly mother.

Outline your approach to this situation. (100%)

The overall pass rate for this question was 64/81 (79%).

Considered a very good question by the examiners as it was pitched at consultant level decision making. Good answers identified the exact problem, showed respect for patient autonomy, provided support for the involved parties, suggested an approach to conflict resolution and had regard for the Emergency Dept as a whole. Poor answers failed to address one or more of the above issues.

SAQ 3

A 46 year old man presents with one hour of severe left sided abdominal pain, radiating to the left loin. An abdominal CT scan reveals a 6 mm stone in the lower third of the left ureter with a mild hydronephrosis.

Discuss the analgesic and other treatment options in this patient. (100%)

The overall pass rate for this question was 71/81 (87.6%).

The examiners felt that the question may have been somewhat ambiguous in that the current pain status of the patient was not explicit. Strong answers required a discussion of the pros and cons of currently available pharmacological agents, criteria for admission and consideration of possible urological interventions. Poor answers failed to address the above issues or failed to address the question.

SAQ 4

Compare and contrast propofol and ketamine for procedural sedation in the emergency department. (100%)

The overall pass rate for this question was 74/81 (91.3%).

The marking examiners felt that this was a good question on core knowledge. Most candidates provided very good standard answers. Failed candidates administered inappropriate or unsafe doses or demonstrated limited insight into the side effect profiles of the two drugs.

SAQ 5

A 10 year old boy is brought to hospital by his parents after falling off his skateboard and hitting his head.

(a) What clinical factors would influence your decision to order a brain CT scan? (50%)

After full assessment he is deemed fit for discharge.

(b) Describe your discharge advice. (50%)

The overall pass rate for this question was 80/81 (98.7%).

This question was described as relatively straight forward by the examiners. Strong answers defined the clinical features of minor head injury and appraised the current literature on risk predictive strategies. Poor answers failed to take into account the specific scenario presented or failed to address the features above.

SAQ 6

You have been advised by Emergency Medical Services of a bus versus petrol tanker accident with mass casualties.

Describe how you would configure and deploy a medical team to the accident scene. (100%)

The overall pass rate for this question was 61/81 (75.3%).

One examiner felt that this was a poor question as it allowed a variety of interpretations depending on local/regional practices. Despite this, the examiner was able to identify a series of core knowledge points that seemed extrapolatable to any geographical region.

Good answers addressed the team composition and expertise, clarification of special needs, configuration within the confines of the local Displan, equipment needs, briefing, transport, communication and impact on the Emergency Dept.

SAQ 7

A mother brings to your emergency department her 4 day old boy with a 24 hour history of poor feeding and rapid breathing. He also had 2 episodes where he appeared to stop breathing for a few seconds.

Describe your assessment of this baby. (100%)

The overall pass rate for this question was 46/81 (56.8%).

The markers felt that this was a reasonable question which was largely poorly answered – hence the relatively low pass rate. Good answers included assessment aimed at a wide differential which needed to include significant conditions such as sepsis and cardio-pulmonary disease. Poor answers failed to include an adequate differential or failed to do a focussed history, examination or a septic workup.

SAQ 8

A 32 year old woman who is 33 weeks pregnant is referred to your emergency department because of a blood pressure of 140/95 and right upper quadrant pain for 24 hours. One hour after arriving in the emergency department, the patient begins to have a grand mal seizure.

Describe your management. (100%)

The overall pass rate for this question was 74/81 (91.3%).

The examiners felt that this was a good question and they were disappointed with answers which attained a basic pass but failed to explore the issues at a consultant level. Good answers recognised the emergent nature of this presentation, suggested evidence based approaches to BP and seizure management, recognised quality issues within the Emergency Dept and emphasised early delivery and management of the foetus.

6. VISUAL AID QUESTIONS

51/81 (63%) candidates passed the VAQ section of the exam. To achieve this a candidate has to pass 5 or more of the 8 questions with a total mark of at least 40 / 80. The grade frequencies were:

Grade (/ 10)	Frequency (N)
9	1
8	0
7	6
6	15
5	29
4	15
3	9
2	5
1	1

VAQ 1

An 82 year old man is brought to your emergency department after having been found on the floor of his home. He was last seen by his neighbor 18 hours earlier.

- (a) Describe and interpret his ECG. (50%)
- (b) Outline the investigations you would perform. (50%)

ECG showing a junctional bradycardia with wide QRS, deep anterior Q waves and tall anterior T waves.

The overall pass rate for this question was 62/81 (76.5%).

The examiners felt that this was a straight forward question requiring a structured description and a focussed differential including structural heart disease, metabolic, toxicological and environmental causes. Most answers were considered adequate but lacking extra detail.

VAQ 2

A 45 year old man is brought to your emergency department with severe pain in his right hip after a fall from his bicycle an hour earlier. He has no other obvious injuries.

His observations are:

GCS	15	
HR	110	/min
BP	95/50	mmHg supine

- (a) Describe and interpret his X-ray. (50%)
- (b) Outline the analgesia options. (50%)

X-ray of complex orthopaedic injury showing comminuted mid shaft femoral fracture, hip dislocation, acetabular fracture and fracture into the pubic symphysis. Air splint in place.

The overall pass rate for this question was 62/81 (76.5%).

Good answers demonstrated a systematic approach to x-ray interpretation and recognised the high likelihood of significant blood loss and significant analgesia issues. Poor answer missed one or more injuries and/or failed to take into account the haemodynamic instability in suggesting analgesic options. Many candidates failed to answer the question as set.

VAQ 3

An 83 year old woman presents with a three day history of malaise and polyuria. She has a past history of Type 1 Diabetes and Hypertension.

Her observations are:

HR	100	/min
BP	183/65	mmHg supine
GCS	14	M6, V5, E3
O ₂ saturation	100%	O ₂ 6 L/min via Hudson mask.

Serum biochemical results are shown.

Describe and interpret her investigations. (100%)

Serum biochemical results.

			Reference Range
Na	125	mmol/L	(135-145)
K	6.0	mmol/L	(3.2-4.5)
Cl	81	mmol/L	(98-106)
Bicarbonate	7	mmol/L	(22-28)
Urea	25.0	mmol/L	(3.0-8.0)
Creatinine	262	µmol/L	(50-100)
Glucose	54.5	mmol/L	(3.5-5.5)
Osmolality	337	mmol/Kg	(275-295)

The overall pass rate for this question was 58/81 (71.6%).

The examiners felt that this was a good question testing core knowledge of metabolic emergencies. Good answers identified the primary abnormalities, made appropriate secondary calculations and committed to a diagnosis of DKA with renal failure and hyperkalaemia. Failed answers did not undertake secondary calculations and synthesised the abnormalities poorly.

It is of concern to the FEC that one examiner failed candidates if they if they “failed to give calcium and bicarbonate” when the question asked the candidates to “describe and interpret” the biochemistry.

VAQ 4

A 65 year old man is brought to your emergency department. He was starting a fire in his fireplace when his clothes caught on fire.

- (a) Describe and interpret his photograph. (50%)
- (b) Outline the principles of his fluid management. (50%)

Clinical photograph showing extensive burns of variable thickness to the anterior neck, chest and abdomen plus face in a middle aged male receiving oxygen and non-invasive monitoring.

The overall pass rate for this question was 48/81 (59.2%).

Both examiners felt that this was a good question testing core emergency medical knowledge. Good answers described the burn in terms of area, depth and the likelihood of airway, other special area and circumferential limb burns. Fluid management principles included use of a recognised fluid replacement regime and monitoring response with vital signs, urine output and CVP. Poor answers failed to recognise the risk of airway injury, the need to monitor fluid therapy response and/or suggested hypotonic fluids. Some failed candidates seemed to ignore the suggested 50/50 time allocation or failed to answer the question as set.

VAQ 5

An 8 year old boy is brought by his parents to your emergency department 20 minutes after a motor vehicle accident in which he was a restrained rear seat passenger.

His observations are normal and he is GCS 15.

Describe and interpret his photograph. (100%)

Clinical photograph showing a young boy with a wide area of bruising/abrasion to his entire anterior neck.

The overall pass rate for this question was 31/81 (38.3%).

The two markers felt that this was a very straight forward question which was largely very poorly answered. Successful answers described the photograph and interpreted a likely cause/mechanism and suggested possible associated underlying injuries. Failed answers described the photo without providing further interpretation as above.

The examiners questioned whether an explicit part b) such as “list possible associated injuries” would have improved the pass rate.

VAQ 6

A 50 year old man presents with shortness of breath and sharp central chest pain of 24 hours duration. He has no past medical history and is on no medication.

His observations are:

BP	110/80	mmHg supine
Temperature	37.9°C	
O ₂ saturation	97%	room air

Describe and interpret his ECG. (100%)

ECG showing narrow complex tachycardia with electrical alternans.

The overall pass rate for this question was 46/81 (56.8%)

Both examiners felt that this was a good question, poorly answered by many candidates. High level answers showed a structured approach to ECG interpretation and stated conclusions within the clinical context. Poor answers failed to calculate rate, identify alternans or interpret within context.

VAQ 7

A 74 year old man is brought to your emergency department after three days of persistent vomiting.

His observations are:

HR 110 /min
BP 135/70 mmHg supine
Temperature 37°C

Arterial blood gas and serum biochemical results are shown.

Describe and interpret his investigations. (100%)

Arterial blood gas and serum biochemical results.

Reference Range

FIO ₂	0.5		
pH	7.62		(7.35-7.45)
pCO ₂	28.5	mmHg	(35-45)
pO ₂	234	mmHg	(80-95)
Bicarbonate	30.0	mmol/L	(22-28)
Base excess	8.3		(-3 - +3)
O ₂ saturation	99.8	%	(> 95)
Lactate	1.1	mmol/L	(< 1.3)
Na ⁺	131	mmol/L	(134-146)
K ⁺	2.0	mmol/L	(3.4-5)
Cl ⁻	90	mmol/L	(98-106)
Glucose	12.7	mmol/L	(3.5-5.5)

The overall pass rate for this question was 65/81 (80.2%).

The examiners felt that this was an excellent question yielding a wide spread of marks. Good answers showed a structured approach to ABG/electrolyte interpretation, made appropriate secondary calculations and recognised the complex nature of this abnormality with its possible differential diagnoses. Poor responses failed to recognise the metabolic and respiratory alkaloses, the raised A-a gradient (and its possible significance) and did not suggest a reasonable differential.

VAQ 8

A 47 year old man presents to your emergency department with a two day history of a painful rash on the back of his neck.

- (a) Describe and interpret his photograph. (70%)
- (b) List the investigations you would perform. (30%)

Clinical photograph showing a large area of clustered vesicles with associated erythema. Rash crosses the midline.

The overall pass rate for this question was 56/81 (69.1%).

The examiners felt that this was a good question based on a high quality image. Good answers identified a vesicular rash with a reasonable differential of causes plus a focussed investigation of these causes. Failed answers misdiagnosed non vesicular rashes (eg carbuncle). It appeared that some candidates did not allocate their time as per the question recommendation leading to inadequate detail in one or other section.

7. CLINICAL EXAMINATIONS

These were held in Perth on Saturday October 18 and Sunday October 19, 2008.

Clinical exam coordination at the (Sir Charles Gairdner Hospital), Jason Armstrong and (Joondalup Health Campus) Yuresh Naidoo. A total number of 63 candidates were invited to the clinical section.

7.1. LONG CASES

52/63 (82.5%) passed the long cases. The pass mark is 5/10. The grade frequencies were:

Grade (/ 10)	Frequency (N)
9	2
8	8
7	19
6	9
5	14
4	7
3	4

7.2. SHORT CASES

48/63 (76.2%) passed the short cases. The pass mark is a mark of 5/10, which can be obtained by passing 3 cases with an aggregate of 15-18/40 inclusive or at least 2 of 4 cases with an aggregate of 19/40 or more. The grade frequencies were:

Grade (/ 10)	Frequency (N)
8	2
7	7
6	24
5	15
4	14
2	1

7.3. SCEs

51/63 (81.0%) passed the SCEs. To pass, a candidate needs to score 30/60 and pass at least 4 stations. The grade frequencies were:

Grade (/ 10)	Frequency (N)
10	3
9	9
8	10
7	13
6	15
5	11
4	8
3	3
0	1

SCE 1

You are the consultant in charge of the ED.

13 yo Ben Morris presented with a fracture/dislocation of the ankle, sustained at school. He was accompanied by a teacher.

Your ED registrar, Dr John Brown successfully reduced it under intravenous propofol. During the procedure, Ben vomited and aspirated. He will require admission for management of mild aspiration pneumonitis and the fracture; he is currently stable.

Mrs Julie Morris, Ben's mother, who could not be contacted by ED staff has just arrived. You will discuss this situation with her. She has not yet seen Ben, and is waiting for you in the ED relative room.

- You will ROLE PLAY a consultation with Mrs Morris, who will be played by an ACTOR.
- Dr Brown will NOT be present.
- The examiners will NOT be asking any questions and do NOT expect you to interact with them.

Overall pass rate for this question was 49/63 (77.8%).

The FEC and Court of Examiners regard the Communications SCE as an important element of the Fellowship Exam. Examiners felt this SCE was fair, and representative of common practice. However, they considered some candidates to be ill-prepared for it, despite its focus on a core competency. Poor candidates failed to acknowledge / address the mother's concerns, did not pick up non-verbal cues, or used excessive medical jargon.

SCE 2

An 8 year old boy is brought to your tertiary ED by ambulance. He had been playing on a building site and was hit by a construction vehicle.

On arrival he is crying and complaining of left shoulder and right upper abdominal pain.

Initial observations: Pulse 160/minute; BP 95/50, GCS 14/15, O₂ saturation 93% on air.

- Describe your approach to this case.
- Describe and interpret the Chest X-ray.
- What are the limitations of a supine CXR in this situation?
- How does this CXR alter your management?
- CT abdomen reveals a liver and splenic laceration. Despite treatment, the pulse rate is now 180/minute and BP 70 systolic. What are the options for managing his abdominal injuries?

Overall pass rate for this question was 52/63 (82.5%).

Major trauma represents important core knowledge in Emergency Medicine. Examiners felt this SCE was fair, but a good discriminator. Failed candidates demonstrated poor standard in XR interpretation, clinical management, or "described" issues when asked to "discuss".

SCE 3

You are asked by a junior medical officer to assist in the care of a 20 year old female university student who stated she ingested a large dose of Paracetamol.

- Outline the key features in the history you would elucidate.
- The patient deliberately overdosed on paracetamol only; the time of ingestion is unknown. What is the utility of the paracetamol nomogram in this setting.
- The following results are from a serum assay taken at the time of presentation. Describe and interpret these results.

			<i>Reference</i>
Bilirubin	70	µmol / L	(<30)
Albumin	34	g / L	(35 - 50)
Total protein	79	g / L	(60 - 80)
GGT	161	IU / L	< 40
ALP	133	IU / L	(42-98)
ALT	12,400	IU / L	(<34)
AST	23,800	IU / L	(<31)
Serum paracetamol	<10	µmol / L	(<30)
INR	3.3		0.9 - 1.1

- Outline your management.
- The patient is insisting on leaving the department without treatment. Outline the issues in this situation and how you would deal with them.

Overall pass rate for this question was 59/63 (93.7%).

This was regarded a basic SCE by examiners, and high-level responses were expected of candidates. As such, candidates who failed did not provide required details in all answers. Candidates are reminded to be familiar with updates in the assessment and management of paracetamol toxicity.

SCE 4

A 75 yo woman presents to your tertiary ED following a collapse and loss of consciousness for about 2 minutes. A witness reports she has complained of dizziness prior to the event. She regained full consciousness by the time of ambulance arrival.

On arrival, she had a GCS of 15, HR 100/min, BP 134/86, RR 12/min and O₂ saturation 100% on 6L/min of O₂ by mask.

Her only relevant past history is a permanent pacemaker insertion 2 weeks prior. She has otherwise been well since discharge.

An ECG is taken on arrival.

- Describe and interpret the ECG.
- What is your differential diagnosis at this stage?
- Outline the investigations you would request and why?
- The patient suffers another episode of dizziness and confusion. She is noted to be pale and sweaty. BP 90/50, SaO₂ 92%. A repeat ECG is performed. Describe and interpret the ECG.
- Question 5: Describe your management.

Overall pass rate for this question was 54/63 (85.7%).

This was regarded a basic SCE by examiners, and high-level responses were expected of candidates. Those who failed did not provide required details in answers, specifically in ECG interpretation or management of brady-arrhythmia.

SCE 5

You are the consultant in the Emergency Department of a regional hospital one hot summer day.

A 50 yo man is brought in by ambulance after he completed a long distance bicycle race, which finishes near your hospital. Since the race his friends report he acted strangely and fainted twice. They rode with him a lot of the time and they think that he drank plenty of water and there was no history of trauma.

- List your differential diagnosis.
- The following are initial findings. Describe and interpret them.

Temperature: 40.5 deg C (per rectal)
 HR: 125
 BP: 100/45
 GCS: 14

Serum assays:

			<i>Reference</i>				<i>Reference</i>
Na	130	mmol/L	135 - 145	Glucose	4.9	mmol/L	3.3 - 7.7
K	3.3	mmol/L	3.5 - 5.5	CK	8545	IU / L	80 - 200
Cl	97	mmol/L	95 - 110				
HCO ₃	23	mmol/L	22 - 30				
Urea	25.3	mmol/L	2.5 - 8.3				
Creatinine	110	mcmol/L	50 - 90				

- Outline your management.
- This bicycle race is getting bigger each year. Outline the principles of preparing your regional hospital to receive multiple casualties from this event.

Overall pass rate for this question was 54/63 (85.7%).

Examiners regarded heat-related illness to be an important topic to examine in the SCE. Detailed and high-level responses were required of candidates. Poor candidates did not meet such requirements, especially in clinical management of heat illness, or failed to demonstrate perspective related to the specific patient.

SCE 6

You are the consultant on duty at a regional ED. There is no Intensive Care Unit in your hospital. The closest tertiary Paediatric service is 40 km away.

A previously well 6 month-old girl is brought by her parents at 0100hrs, with a two-day history of runny nose, and fever. Shortly before arriving, they state she suffered “a short fit”.

Observations at triage are: Drowsy and irritable. Pulse 140; RR 40; capillary refill time 4 seconds; oximetry 92% on room air; axillary temp 38⁵ deg C.

- What would you look for in your initial examination of this child.
- Based on your initial assessment, the child is septic and unwell, but no focus is identified. She has stopped convulsing. Outline your treatment priorities in this child.
- The child is stable following initial treatment. You opt to transfer the child to the tertiary Paediatric Hospital. You are required to do the transfer. Outline your preparations.
- As the medical escort, you are en route to the tertiary hospital in an ambulance. One third of the way to your destination, the child suffers a generalised seizure. Outline your response.

Overall pass rate for this question was 48/63 (76.2%).

Examiners felt this SCE was a good discriminator. Failed candidates did not acknowledge important examination features in a septic child, or demonstrate basic competence in retrieval / transport medicine.

8. SUMMARY PASS RATES

MCQ	65/81	(80.2%)
SAQ	62/81	(76.5%)
VAQ	51/81	(63.0%)

63/81 passed 2 or more sections and were invited to the clinicals

LC	52/63	(82.5%)
SC	48/63	(76.2%)
SCE	51/63	(81.0%)

At the examiners meeting, of the 63 candidates at the clinicals

- 46 candidates passed automatically
- none were discussed
- meaning 46 / 63 (73.0%) of those attending the clinicals passed.

So the overall pass rate was 46 / 81 (56.8%)

ACNOWLEDGEMENTS

As always the Fellowship exam is a huge logistical undertaking and the effort required in running it should not be underestimated. Acknowledging the help provided by all of the many doctors, nurses, clerical staff and orderlies in running the exam is best done in this exam by noting that this was a real team effort. I would like in particular to thank Drs Jason Armstrong and Yuresh Naidoo for their work as the site coordinators.

I wish to further acknowledge the tireless and meticulous work with regards to the logistics of the exam at the College secretariat level. In particular I wish to thank our Fellowship Exam Officer, Virginia Cunsolo for her tireless activity in bringing this examination to a successful conclusion. I would also like to acknowledge our college Chief Executive Officer Jenny Freeman for her support in the lead up to and running of this examination

Dr Mark Gillett
Chair, Fellowship Examination Committee