



AUSTRALASIAN COLLEGE FOR EMERGENCY MEDICINE
40th FELLOWSHIP EXAMINATION
REPORT
August/October 2007

This report is circulated to:

- candidates – successful and unsuccessful
- examiners involved in the exam – written, clinical and observers
- members of the Fellowship Examination Committee
- DEMTs across Australasia
- Board of Censors (as part of their next meeting agenda)
- 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 2007.2 exam was held on 8 August (written sections – all regions) and on 20 and 21 October (clinical sections – Adelaide). The clinicals were held at 2 sites (Flinders Medical Centre and Royal Adelaide Hospital for the Long and Short Cases and Flinders Medical Centre for the SCEs)

Overall, 45 candidates passed the examination from the 77 who sat the written sections (overall pass rate 58.4%). 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	Peter Cameron	Lewis Macken
Neil Banham	Chris Curry	Scott Pearson
Michael Bastick	Anne-Maree Kelly	Mark Webb
Sheila Bryan	David Kirkpatrick	

Clinicals only

Matthew Chu	Tony Joseph	Lindsay Murray
Linda Dann	Debbie Leach	Debra O'Brien
Bob Dunn	David Lightfoot	Paul Preisz
Diana Egerton Warburton	Paul Mark	Bryan Walpole
Gordian Fulde	Jennie Martin	
Trevor Jackson		

Writtens and Clinicals

Jennifer Brookes	Steve Dunjey	Bernard Foley
Tony Brown	David Edjey	Christopher Gavaghan

Timothy Gray	John	Maguire	Andrew	Singer
David Green	David	Mountain	James	Taylor
Wayne Hazell	Paul	Pielage	Graeme	Thomson
Anna Holdgate	Drew	Richardson	Garry	Wilkes
David Lewis-Driver	John	Roberts	Kim	Yates

Peer Support Examiners

George Braitberg	Ian	Rogers	Allen	Yuen
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3. OBSERVERS

The official observers were Doctors:

Louise Finnel	(Middlemore Hospital)
Andy McClelland	(Auckland City Hospital)
Don Liew	(Royal Melbourne Hospital)
Jennifer Davidson	(Liverpool Hospital)
Sarah Coombes	(St George Hospital)

4. MULTIPLE CHOICE QUESTIONS

68/77 (88.3%) 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 ± 5.7). The grade frequencies were:

Grade (/ 10)	Frequency (N)
9	5
8	6
7	21
6	21
5	15
4	6
3	1
2	2

5. SHORT ANSWER QUESTIONS

49/77 (63.6%) 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	2
7	12
6	17
5	18
4	15
3	8
2	3
1	2

SAQ 1

A 60 year old man presents to your emergency department with breathing difficulties. He has just arrived on a flight from a country where there have been recent case reports of Avian influenza. On examination, he is febrile, drowsy and markedly dyspnoeic.

- a. Describe how you would minimize the contagion risk in your emergency department in this situation. (50%)

Ten further patients who were on the same flight as this man present with similar symptoms in the next 24 hours.

b. Outline the additional measures required to contain the contagion risk. (50%)

The overall pass rate for this question was 67/77 (87.0%).

The examiners for this question felt that this was a good question addressing a very topical issue. Good answers identified standard measures including PPE, isolation options, early diagnosis and consultation with Public Health, ID etc. Part B required a more systems approach to mass presentation of possibly infective patients and included designation of specific areas, staff etc and early activation of disaster/pandemic plan options.

Failed answers either did not address PPE/masks or did not involve Public Health.

Illegible hand writing was an issue for a significant number of candidates.

SAQ 2

Describe how the normal anatomical and physiological changes of pregnancy influence the assessment of a 32 week pregnant woman presenting with multiple trauma. (100%)

The overall pass rate for this question was 50/77 (64.9%).

This question was viewed by the examiners as an excellent core topic with clear wording. Structure dividing the changes up into various body systems was required to pass. Poor answers generally lacked this structure and consequently omitted major areas. Other poor answers lacked specific detail.

SAQ 3

A 72 year old man presents to the emergency department with a two day history of abdominal pain. A CT scan undertaken to investigate recent weight loss and jaundice shows a pancreatic mass lesion.

On examination, he is confused and jaundiced with maximal tenderness in the right upper quadrant. His observations are:

Temp	39.8°C	
PR	120	per min
BP	100/65	mmHg
RR	22	per min
O ₂ Sat	98%	on oxygen 6 LPM

Describe your management. (100%)

The overall pass rate for this question was 32/77 (41.6%).

Both examiners felt that this was a very straight forward question that was not well handled by a large number of candidates despite most passing in the end. Good answers addressed Early Goal Directed Therapy of sepsis, surgical issues and addressed the issue of ongoing resuscitation in this scenario. Inadequate answers failed to address the above or suggested management inappropriate for this presentation.

SAQ 4

Following a period of prolonged resuscitation, a 4 year old child has died in your emergency department as a result of a home pool drowning. The child's parents have just arrived at triage and are unaware of what has happened.

Outline how you would deal with the important issues raised in this situation. (100%)

The overall pass rate for this question was 58/77 (75.3%).

Examiners felt this was a fair question. Most candidates dealt with the issue of “breaking of bad news” reasonably well but failed to address other issues raised including documentation, staff issues, coronial referral, issues of possible neglect/NAI etc.

SAQ 5

Discuss the pharmacological options available (including dosages and modes of delivery) to treat anaphylaxis in the emergency department. (100%)

The overall pass rate for this question was 61/77 (79.2%).

This was felt to be a good discriminator (based on a core EM topic) in that whilst most candidates had a reasonable discussion of the pharmacological options, those doing poorly failed to identify correct doses or appropriate routes of administration.

SAQ 6

A 58 year old patient who is undergoing Continuous Ambulatory Peritoneal Dialysis for end stage renal disease presents with a 6 hour history of severe abdominal pain and vomiting.

His observations are:

Temp	38.8°C	
PR	110	per min
BP	150/90	mmHg
RR	22	per min
O ₂ Sat	98%	on oxygen 6 LPM

Describe your assessment. (100%)

The overall pass rate for this question was 47/77 (61.0%).

The examiners felt that this was a straight forward question addressing a typical ED presentation. Good answers based their assessment on eliciting evidence pro or con the numerous differentials in the diagnosis. Poor answers failed to think beyond bacterial peritonitis as a cause or dealt with management issues rather than assessment.

SAQ 7

- Outline the spectrum of possible emergency department presentations resulting from metamphetamine use (30%)
- Outline your approach to the treatment of acute behavioural disturbance caused by methamphetamine toxicity (70%)

The overall pass rate for this question was 56/77 (72.7%)

SAQ 8

A 12 year old girl with cystic fibrosis presents unwell with a fever and acute shortness of breath. Her observations are:

Temp	38.2°C	
PR	130	per min
BP	100/60	mmHg
RR	30	per min
O ₂ Sat	91%	room Air

A Chest X-ray reveals bilateral patchy consolidation and a 20% left sided pneumothorax.

Describe your management of this child. (100%)

The overall pass rate for this question was 67/77 (87.0%).

6. VISUAL AID QUESTIONS

36/77 (46.8%) 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
7	1
6	10
5	24
4	21
3	12
2	5
1	3

VAQ 1

A 70 year old man presents to the emergency department with presyncopal symptoms and central chest pain for the first time.

His observations are:

BP	90/70	mmHg supine
O ₂ saturation	95%	room air

- Describe and interpret his ECG. (50%)
- Outline your management. (50%)

ECG showed Atrial Fibrillation with ST/T changes and a non specific interventricular conduction defect.

The overall pass rate for this question was 32/77 (41.6%).

The examiners felt that this was an appropriate standard ECG with multiple abnormalities. The management question was also thought relevant. Time may have been an issue with the interpretation of a complex ECG plus a number of management options. Candidates who did not pass this question erroneously or incompletely analysed the ECG or suggested inappropriate management strategies such as cardioversion or use of Beta Blockers or Nitrates.

VAQ 2

A 20 year old man presents to your emergency department with central chest pain that commenced after recreational drug use at a party two hours earlier.

His observations are:

HR	108	/min
BP	150/85	mmHg (supine)
O ₂ saturation	98%	room air

- Describe and interpret his Chest X-ray. (50%)
- Outline your management. (50%)

Chest X-ray showed mediastinal and subcutaneous emphysema.

The overall pass rate for this question was 38/77 (49.4%).

The examiners felt that this was an easy question poorly answered by many candidates. Satisfactory answers systematically described the image and interpreted it in the light of the clinical scenario. Management required knowledge of the supportive care of this condition and safe disposition of a drug affected patient. Unsatisfactory answers failed to address the above or suggested the inappropriate insertion of an intercostal catheter.

VAQ 3

A 77 year old man presents to your emergency department feeling generally unwell for several days. He is noted to have a pulse rate of 36 beats / minute and is normotensive.

Arterial blood gases and serum biochemical tests are performed.

- Describe and interpret the results of his investigations. (70%)
- Outline your treatment of his raised digoxin level. (30%)

Arterial blood gas and serum biochemical results.

			Reference Range
F _i O ₂	0.3		
pH	7.19		(7.35-7.45)
pCO ₂	30	mmHg	(35-45)
pO ₂	119	mmHg	(80-95)
Bicarbonate	14	mmol/L	(22-28)
Base excess	-15		(-3 - +3)
O ₂ saturation	97	%	(> 95)
Na ⁺	132	mmol/L	(134-146)
K ⁺	6.9	mmol/L	(3.4-5)
Cl ⁻	98	mmol/L	(98-106)
Urea	49.4	mmol/L	(3-8)
Creatinine	1.05	mmol/L	(0.06 – 0.12)
Glucose	6.1	mmol/L	(3.5-5.5)
Digoxin	5.9	nmol/L	(0.6 – 1)

The overall pass rate for this question was 57/77 (74.0%).

The examiners felt that this was an excellent set of clinical data on which to base a question. Good answers identified all the major abnormalities plus discussed specific treatments including dialysis, use of digoxin Fab fragments and avoided the use of calcium for the hyperkalemia in the presence of digoxin toxicity.

VAQ 4

A 25 year old man sustains an injury to his right ankle in a fall from a ladder. He has no other injuries.

- Describe and interpret his photograph. (30%)
- Outline your management. (70%)

X-ray showed a compound fracture/dislocation of the Right Ankle

Overall pass rate for this question was 67/77 (87.0%)

This question was felt to be very straight forward requiring a basic answer only to pass. Good answers identified the compound nature of the injury and the need for early reduction in the ED and early OR washout and definitive repair.

VAQ 5

A 7 year old boy is brought to your emergency department by his teacher after sustaining an injury to his left eye during sport at school that morning.

- a. Describe and interpret his photograph. (30%)
- b. Outline your assessment. (70%)

Photograph showed a child with a hyphaema with a swollen, ptosed upper eyelid and some minor grazes in the infraorbital region.

The overall pass rate for this question was 50/77 (64.9%).

The examiners agreed that this was a good image raising core issues for discussion. Satisfactory answers identified the image abnormalities and addressed a focused history, physical examination and relevant tests such as use of slit lamp. Failed answers missed the hyphaema or failed to make a suitable assessment.

Of note was that both examiners expressed concern that assessment did not include mention of past health, medications and allergies or assessment for injuries in other body areas. The question may have benefited from a more specific scenario excluding previous illness and other injuries at presentation.

VAQ 6

A 68 year old man presents with one hour of rapid palpitations.

Two ECGs are shown – ECG 1 and 2 are before and after his anti-arrhythmic drug treatment respectively.

- a. Describe and interpret ECG 1 (50%)
- b. Describe and interpret ECG 2 (50%)

ECG 1 showed a narrow complex tachycardia with widespread ST segment depression

ECG 2 showed an ectopic atrial rhythm with 2:1 AV nodal conduction with almost complete resolution of the ST segment changes.

Overall pass rate for this question was 37/77 (48.1%)

The examiners felt that the ECGs were both of a suitable standard for this level of testing. ECG 1 was largely well completed by most candidates. Many candidates failed to identify the nodal block and the ectopic atrial focus.

VAQ 7

An 80 year old man on home oxygen therapy presents following a minor fire in his home.

- a. Describe and interpret his photograph. (30%)
- b. Outline your management of this man. (70%)

Photograph showed superficial partial thickness burns of the face with singed eyebrows and carbonaceous material around the mouth and nose.

Overall pass rate for this question was 52/77 (67.5%).

The image was reasonably discussed by most candidates. Management required a good general approach to facial burns including awareness of airway injury, assessment of all local structures, analgesia, eye care, immunization, assessment of home circumstances etc in the longer term. Poor answers tended to suggest immediate intubation at the expense of dealing with all the issue arising.

VAQ 8

A 27 year old previously well woman presents with a 24 hour history of fever and headache. A lumbar puncture is performed.

- a. Describe and interpret her CSF results. (30%)
- b. Outline your management. (70%)

Cerebrospinal fluid biochemical and microbiological results

Reference Range

No. of tubes	4		
Appearance	Clear		
Supernatant	Colourless		
Volume	3.5	mL	
In tube 3:			
WBC			
Neutrophils	20	$\times 10^6/L$	(<5)
Lymphocytes	111	$\times 10^6/L$	(<5)
RBC	8	$\times 10^6/L$	(<5)
Glucose	3.0	mmol/L	(2.8–4.0)
Protein	750	mg/L	(150–500)
Gram stain	No organisms seen.		

Overall pass rate for this question was 42/77 (54.5%).

The examiners felt that this was a good set of data which would have benefited from a more focused clinical scenario to narrow the management options proposed. Good answers identified viral meningitis as the most likely diagnosis with partially treated or early bacterial meningitis being other possibilities. Good management answers addressed supportive measures, and discussed the pros and cons of treating with antibiotics depending on clinical factors.

7. CLINICAL EXAMINATIONS

These were held in Adelaide on Saturday October 20th and Sunday October 21st 2007

Clinical exam coordination at the (Flinders Medical Centre), Melissa Nelligan and (Royal Adelaide Hospital) Jack Wearne. A total number of 53 candidates were invited to the clinical section.

7.1. LONG CASES

48/53 (90.6%) passed the long cases. The pass mark is 5/10. The grade frequencies were:

Grade (/ 10)	Frequency (N)
8	8
7	14
6	11
5	15
4	3
3	1
2	1

7.2. SHORT CASES

48/53 (90.6%) 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	1
7	6
6	15
5	26
4	4
3	1

7.3. SCEs

48/53 (90.6%) 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	2
9	5
8	5
7	13
6	9
5	14
4	4
3	1

SCE 1

You are the consultant in charge of the ED; it is midday on a Friday.

Ms Jane Brown is a 37 yo woman. Two days earlier, she experienced a sudden, very severe headache. She rarely suffers headaches, and this was the worst she has experienced. It improved slowly over 12 hours; she now has only minor symptoms.

Ms Brown has no significant past history and takes no medications. Her LMO referred her for assessment of possible recent subarachnoid haemorrhage (SAH). She was assessed by your registrar, Dr John Smith. Examination and investigations, including FBE, UEC and a non-contrast CT Brain are normal. The reporting radiologist indicated that this scanner is 90% sensitive for detecting SAH.

Dr Smith regards a lumbar puncture (LP) as a necessary investigation.

Ms Brown has refused a LP, despite his advice that a SAH has not been fully excluded. She states she is reassured that her CT Brain is normal and wishes to go home, after 4 hours in the ED. Dr Smith has not provided specific information about a LP. He requests that you discuss this situation with Ms Brown.

You should assume that Dr Smith's opinion is correct and further investigation for SAH is indicated for her.

You will enter the examination room to meet Ms Brown, who is dressed and waiting to go home. She knows that you will be coming to talk with her. Dr Smith will NOT be present.

In this scenario you will ROLE PLAY a consultation with Ms Brown who will be played by an ACTOR. The examiners will not be asking any questions and do not expect you to interact with them.

Overall pass rate for this question was 45/53 (84.9%).

Overall, this inaugural type of SCE was well regarded by examiners.

Candidates failed because they did not demonstrate the core competencies of a communicator, as described in the Fellowship curriculum.

This SCE's key intention is to test only communication skills, but by its nature, candidates also required some factual / scientific knowledge to pass.

There was consensus that a communication SCE should be a regular feature in subsequent exams.

SCE 2

A 75 yo man is referred to your tertiary ED by his GP at 1730hrs. He fell 1m off a stepladder 24 hours ago, and has complained of neck pain since. His wife has noticed that he has been unable to hold a knife and fork, and do up buttons.

He has a history of atrial fibrillation, treated with Digoxin and Warfarin. No other medications, no allergies.

The GP ordered a plain cervical spine X-ray, which the patient has brought in.

- Describe and interpret this C spine X-ray
- What are you looking for in your neurological examination?
- He has 4/5 motor weakness, and pain & temperature sensory deficit in all limbs - upper greater than lower. There is sacral sparing. Outline your management.
- MRI shows a cord haematoma. His INR comes back at 2.4. Discuss how to reverse this.

Overall pass rate for this question was 39/53 (73.6%).

This scenario presented a complex case of an injured patient with significant co-morbidities. Failed candidates did not demonstrate sufficient knowledge, radiology interpretation skills or a consultant-level approach to issues. Candidates are reminded of exam terminology, and the importance of answering questions specifically.

SCE 3

A 5 year old boy presents to your Emergency Department at 1830hrs with his mother. He has had a runny nose, cough and wheeze for 2 days.

His past history includes asthma and eczema since 18 months of age. He has required several hospital admissions for asthma.

- Describe how you would further assess his asthma.
- Here are his examination findings. Please interpret these findings and describe your treatment of his asthma.
- The child improves and you are considering discharge. Here is a spacer that has not previously been used. Please demonstrate how you would educate the parent on its use and maintenance.
- What are your discharge criteria for this child?

Overall pass rate for this question was 48/53 (90.6%).

This SCE required some basic practical knowledge about spacers and paediatric asthma. Candidates failed because of failure to demonstrate such knowledge, which includes diagnosis and risk stratification of illness.

SCE 4

A 68 yo woman is referred by her GP, and brought in by her daughter. She has experienced progressive dyspnoea and lethargy for the past week, associated with more frequent episodes of angina.

Her past medical history includes ischaemic heart disease, hypertension, congestive cardiac failure and osteoarthritis. Current medications are a β -blocker, oral nitrates, Aspirin, Frusemide(loop diuretic) and non-steroidal anti-inflammatory (NSAID) agents.

The GP has also sent results of a full blood (FBE) test, done the day before. See attached FBE results.

- Describe and interpret the results.
- What issues do you need to consider in giving this patient a blood transfusion?

- The patient consents to a packed cell transfusion. 20 minutes after commencement of the first unit, she complains of headache and nausea. She has a temperature of 39degC, with a HR of 100 and BP of 130/90.
- Part 1: What are the likely causes?
- Part 2: Outline your management
- How would you develop a policy to minimise incompatible transfusions?
Specimen type: Whole Blood

		Units	Reference Range
Hb	63	g / L	130 - 170
WCC	10.6	x 10 ⁹ / L	4.0 - 11.0
Platelets	116	x 10 ⁹ / L	140 - 400
Haematocrit	0.19		0.38 - 0.47
RCC	1.99	X 10 ¹² / L	4.5 - 5.7
MCV	62	fL	80 - 96
MCHC	240	g / L	320 - 360
White Cell Differential:			
Neut	8.80	x 10 ⁹ / L	2.0 - 8.0
<i>Lymph</i>	1.01	x 10 ⁹ / L	1.2 - 4.0
<i>Mono</i>	0.75	x 10 ⁹ / L	0.1 - 1.0
<i>Eosin</i>	0.03	x 10 ⁹ / L	0 - 0.5
<i>Baso</i>	0.01	x 10 ⁹ / L	0 - 0.1
Film: Dysmorphic red cells			

Overall pass rate for this question was 42/53 (79.2%).

This SCE tested knowledge and approach to a common Emergency Medicine condition, its treatment, and a treatment complication. Failed candidates did not demonstrate knowledge, pathology interpretation skills, or a consultant-level approach to an adverse clinical event.

SCE 5

You are asked to assist your registrar in a resuscitation cubicle, where a 5 month-old boy is suffering a generalized seizure. The infant's distressed mother has just brought him in, stating that he's had a fever for the last 24 hours.

On arrival, you find a cyanosed infant with generalized convulsions. Your registrar is attempting IV cannulation, while a nurse holds an oxygen mask to the child's face.

- Outline your immediate management
- The seizure ceases after 4 minutes. Outline the key features in your history and examination of this child.

The child has a rectal temperature of 39deg C. You opt to perform a septic work-up.

- Discuss the options for obtaining a urine sample.
- His conscious state has improved but he still looks unwell. Examination, CXR, Urine and CSF have not identified a focus. Discuss the role of antibiotics in this child.

Overall pass rate for this question was 51/53 (96.2%).

There was a high pass rate for this SCE, depicting another common Emergency Medicine scenario. Candidates who failed did not demonstrate sufficient knowledge about assessment of a febrile infant, or drugs used in treating a convulsion.

SCE 6

You are asked to see an ED staff member, who works as on orderly. He has just sustained a needlestick injury to his right index finger on a blood-stained suture needle while clearing a procedure trolley. He was not wearing gloves at the time.

Your registrar used the equipment to suture a patient's wound an hour ago. The patient, a 26yo unemployed man with a history of intravenous drug use, has now left the department. There is a small punctate wound on the orderly's fingertip, with minimal bleeding.

- Outline your approach to this situation.
- These are the recipient's serology results, available within an hour of venepuncture. Describe and interpret them.
- The source was contacted at home, but refuses to submit for any serology tests. What are the implications with regard to other BBVs for the recipient?
- This is the third needlestick incident in your ED over the past month. Outline your approach to minimizing such incidences in the workplace.

Overall pass rate for this question was 44/53 (83.0%).

This scenario required a consultant-level approach to manage the multiple issues presented. Candidates failed if they did not take such an approach, or did not identify key elements of a serology result.

8. SUMMARY PASS RATES

MCQ	68/77	(88.3%)
SAQ	49/77	(63.6%)
VAQ	36/77	(46.8%)

53/77 passed 2 or more sections and were invited to the clinicals

LC	48/53	(90.6%)
SC	48/53	(90.6%)
SCE	48/53	(90.6%)

At the examiners meeting, of the 53 candidates at the clinicals

- 45 candidates passed automatically
- none were discussed
- meaning 45 / 53 (84.9%) of those attending the clinicals passed.

So the overall pass rate was 45 / 77 (58.4%)

9. ACKNOWLEDGEMENTS

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 Melissa Nelligan and Jack Wearne 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