

REPORT OF PAEDIATRIC INTENSIVE CARE FELLOWSHIP EXAMINATION

AUGUST/SEPTEMBER 2004

This report is prepared to provide candidates, tutors and their Supervisors of training with information about the way in which the Examiners assessed the performance of candidates in the Examination. Answers provided are not model answers but guides to what was expected. Candidates should discuss the report with their tutors so that they may prepare appropriately for the future examinations.

Three candidates presented for this examination. Two candidates were successful.

ORAL SECTIONS

Investigations section:

A systematic approach to the types of investigations examined was more likely to maximise the candidate's score.

Investigations presented for discussion included:

- ECGs demonstrating prolonged QT, RBBB, SVT.
- CXRs demonstrating lung cysts, pneumothorax, bilateral infiltrates, right main stem intubation.
- Respiratory function tests.
- Blood gas results demonstrating mixed metabolic and respiratory acidosis, metabolic alkalosis.

Cross Table Viva Section

There were 2 structured Vivas of thirty minutes each.

Candidates should be able to provide a systematic approach for assessment and management of commonly encountered clinical scenarios. Candidates should also be prepared to provide a reasonable strategy for management of conditions that they may not be familiar with.

Example of topics discussed, with introductory question:

- Respiratory problems (pulmonary embolus) in 12 year old with GBS.

Introduction: “A 12 year old girl with GBS has been in ICU for 10 days. She is ventilated: minimal settings. She suddenly becomes desaturated. How would you approach this situation?”

Other topics discussed included:

- 4 year old child with biliary atresia, portal hypertension and haematemesis.
- Rapid sequence intubation in an 8 year old child with closed head injury.
- Hyponatraemia.
- Weaning of 12 year old after kyphoscoliosis surgery.
- Management of staphylococcal sepsis.

The Clinical Section

The Clinical Section was conducted at the Royal Children’s Hospital in Melbourne.

Candidates should listen carefully to the introduction given by the examiners and direct their examination accordingly. Patients were presented as problem solving exercises. For maximal marks, candidates should demonstrate a systematic approach to examination, clinical signs should be demonstrated, and a reasonable discussion regarding their findings should follow. Exposing the patients should be limited to those areas that are necessary for that component of the examination, and in keeping with the modesty requirements of the patients.

Example of hot cases discussed, with introductory question:

- Complex 4-week-old patient with LVAD, CVVH and HFOV.

Introduction: “You are the new intensivist on call today, and during the handover round you are called to this patient (who you know nothing about yet) because she is profoundly hypotensive (mean BP 20 mmHg). How would you approach this situation?”

- Pneumonia in a 4 year old.

Introduction: “This is a 4-year-old with a past TOF repair, who now presents with respiratory distress needing ventilation. Please examine her respiratory system.”

Cases encountered as cold cases included:

- 5 year old child with sickle cell disease and splenomegaly.
- 6 year old child with developmental delay and respiratory distress.
- 8 month old child with tracheo-broncho-malacia and difficulty feeding.
- 14 year old child with mixed aortic valve disease.

WRITTEN SECTIONS

It is imperative that candidates answer the specific question asked. A structured, orderly response considering all aspects of management is required. Writing should be legible to allow candidates to gain optimal marks.

Long Answer Questions

The questions release information piecemeal and incompletely as in the clinical situation. Candidates should address issues related to the specific setting rather than broad generalities. The examiners apportioned marks according to difficulty and required time within each question. An organised/systematic approach is expected. (See also report from General Fellowship Examination).

QUESTION 1

You are called to see a 16-year-old girl in the Emergency Department. She was brought in by ambulance after being found unconscious by her parents. She was last seen alive and well 12 hours ago. Several empty bottles of tablets were found beside her.

- (a) What is your initial management?
- (b) What is the role of decontamination of the digestive tract?
- (c) What “antidotes” are available for patients after drug overdose?
- (d) Discuss her ongoing (definitive) management.

QUESTION 2

A 7-year-old intellectually handicapped boy is admitted to your Intensive Care Unit for airway management. He returns from theatre nasally intubated after evacuation of a large retropharyngeal abscess, which had caused airway compromise.

- (a) Describe how you would assess him for extubation.
- (b) Within 24 hours he has become febrile, and has developed hypotension and bilateral large pleural effusions. Describe your management of these problems.
- (c) Over the next 48 hours he develops increasing jaundice, with severe derangement of his Liver Function Tests. What are the likely causes, and how are you going to manage this problem?

Short Answer Questions

1. List the causes and outline your management of a patient with methaemoglobinaemia.
2. Outline your approach to the management of supraventricular tachycardia in the critically ill child.
3. Outline your approach to the evaluation and treatment of a cardiac surgical patient who returns to your Intensive Care Unit with temporary atrial epicardial pacing wires and problems with atrial pacing.
4. Compare and contrast the roles of parametric and non-parametric tests in analysing data, including examples of types of data and appropriate tests.
5. Critically evaluate the role of albumin containing solutions in the management of the critically ill patient.
6. Outline the causes, and principles of management of Electro-Mechanical Dissociation (Pulseless Electrical Activity).
7. Outline the way in which you would evaluate the aetiology of metabolic alkalosis in the critically ill.
8. Outline the causes, consequences and management of adrenal insufficiency in the critically ill paediatric patient.
9. Outline the causes, consequences and management of Vancomycin Resistant Enterococcus in the critically ill patient.
10. Outline the factors associated with the accuracy of central venous pressure measurement by a central venous catheter.
11. Compare and contrast the pharmacology of ketamine, morphine and dexmetatomidine when used for analgesia in the critically ill.
12. List the possible causes of an altered swallowing reflex in a critically ill child, and outline how you would assess this.
13. List the factors that would make you suspect Severe Acute Respiratory Syndrome in a patient with pneumonia, and outline your management strategy.
14. A large bore catheter for renal replacement therapy has been accidentally inserted into the carotid artery of a boy with multiple organ failure (including a coagulopathy) due to systemic sepsis. The location of the catheter was only discovered after it had been sutured in place. List the potential complications, and outline how you are going to deal with this problem.
15. A 10-year-old girl is still not awake 6 hours after clipping of a cerebral arteriovenous malformation after a Sub-Arachnoid Haemorrhage. List the potential causes and outline your management strategy.

The following “Glossary of terms” was provided for the candidates:

Critically evaluate:	Evaluate the evidence available to support the hypothesis.
Outline:	Provide a summary of the important points.
Most likely:	Give the single (one) most likely.
List:	Provide a list.
Compare and contrast:	Provide a description of similarities and differences (eg. table form).

Dr Peter Morley
**Chairman, Court of Examiners,
Chairman, Fellowship Examination Committee**

<u>Circulation:</u>	Board of Joint Faculty Supervisors of Intensive Care Training Registered Trainees	Panel of Examiners Course Supervisors
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