



ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

Fellowship Examination 2015

**Neurosurgery**

**Written Paper One**

Wednesday 15 April 2015

Reading Time: 10 minutes  
Writing Time: 2 hours

**QUESTION BOOK**

<i>Section</i>	<i>Number of Questions to be Answered</i>
Essay Questions	3

**Candidates are permitted to bring into the examination room:**

- Pens
- Pencils
- Erasers

**Candidates are not permitted to bring into the examination room:**

- Blank sheets of paper
- White-out liquid/tape

**Materials supplied:**

- Question and Answer Book of 27 pages

**Instructions to candidates:**

- All answers must be written in English.
- Write only on the lined pages.

At the end of the examination, candidates are to leave the Question and Answer Book on their desk. Candidates are not permitted to remove the Question Book from the examination room.

**Candidates are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

**Section One - Essay Questions**

Candidates are to write answers in the space provided. Answers outside this area will not be seen in the Examiners' copies of the answers and will therefore not be assessed.

ALL questions must be answered. Each question is of equal value.

Clearly number the sub question you are answering.

**Question 1**

A 37 year-old woman, previously well, 10 days postpartum developed a sudden onset of progressively worsening headache. Within 10 minutes she became drowsy and developed a left sided weakness. In the emergency room her pulse rate was 70/min, BP was 160/70 and GCS score was 12. On examination, she was found to have a left hemiparesis with equal and reactive pupils. CT brain scan is shown. Half an hour later her GCS score has fallen to 10 and her right pupil is fixed to light and dilated.

- 1) List the possible causes of this haematoma?
- 2) Describe and justify your management.



**Question 2**

A 70 Year-old woman complains of 7 months of left buttock, thigh and knee pain on weight bearing with dysaesthesia of the left shin. The pain is worse on walking and relieved by sitting and lying down. A lumbar laminectomy 6 years ago resulted in relief of similar symptoms. She has no hip or knee pathology. On examination her gait is antalgic, left knee jerk is absent and power is normal. The MRI of the lumbar spine confirms a capacious canal with narrowing of the left L4-5 foramen and disc prolapse into the foramen. The MRI is shown.

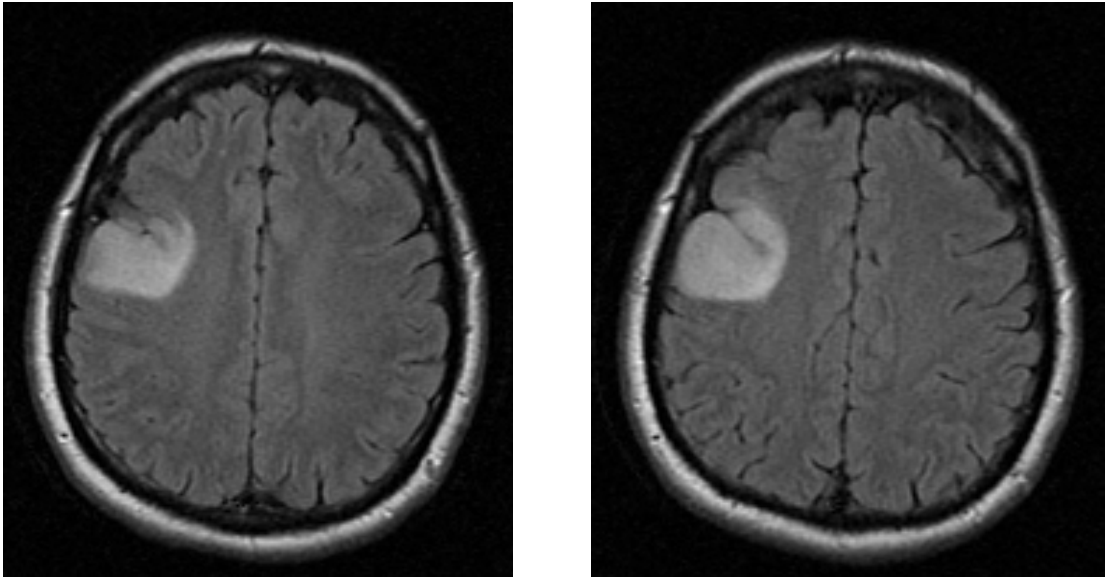
- 1) What is the cause of the pain and explain the reason for this pain?
- 2) List the management options?
- 3) In the event that surgery is considered appropriate, describe in detail the operation you would propose including reasons for your approach, risks and expectations.



**Question 3**

A 53 year-old man with no previous neurological problems had a brief seizure at his place of work. A CT scan showed a right frontal low density lesion with no calcification. The FLAIR sequence MRI scan is shown. There was no contrast enhancement or other high grade features on imaging.

- 1) List the management options.
- 2) Describe the clinical, histopathological and genetic factors that may be important for prognosis and how they influence management.






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# Neurosurgery

## Written Paper Two

Wednesday 15 April 2015

Reading Time: 10 minutes  
Writing Time: 2 hours

### QUESTION BOOK

<i>Section</i>	<i>Number of Questions to be Answered</i>
One - Essay Questions	2
Two – Short Answer Question	1

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- Erasers

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- White-out liquid/tape

**Materials supplied:**

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## Essay Questions

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Clearly number the sub question you are answering.

### Question 1

A previously well, 20 year old man was found in his vehicle unconscious after a high-speed motor vehicle crash. He was intubated at the scene of the crash. He presents in the accident and emergency room ventilated, pharmacologically paralysed with normal pupils and his cardiovascular condition is satisfactory. There were no other significant injuries. CT head, at this time, is shown.

- 1) Explain the pathological processes affecting this man's brain, and the likely progression of these over time.
- 2) List the surgical and non-surgical treatment that you would consider for this man and briefly describe the evidence for or against each of these.
- 3) What is your estimate of the prognosis of this young man? Please answer this as if you were explaining this to his parents at a family meeting on the day after admission.





**Short Answer Question**

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**Clearly number the sub question you are answering.**

**Question 3**

- 1) Outline the spectrum of spina bifida occulta. What cutaneous stigmata may be associated with these conditions and what is the embryological basis for these stigmata?
- 2) What is the incidence of hydrocephalus in myelomeningocele patients and what are the associated congenital brain deformities?
- 3) Describe the characteristic clinical and physical findings in childhood tethered cord syndrome.
- 4) What is the management of lipomyelomeningocele?
