



ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

Fellowship Examination 2013

Neurosurgery

Written Paper One

Tuesday 20 August 2013

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 Book of 3 pages
- Answer Book

Instructions to candidates:

- Write your candidate number on the front of each Answer Book.
- Write your response in the Answer Book provided.
- All answers must be written in English.

At the end of the examination, candidates are to leave the Question Book 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 devices into the examination room.

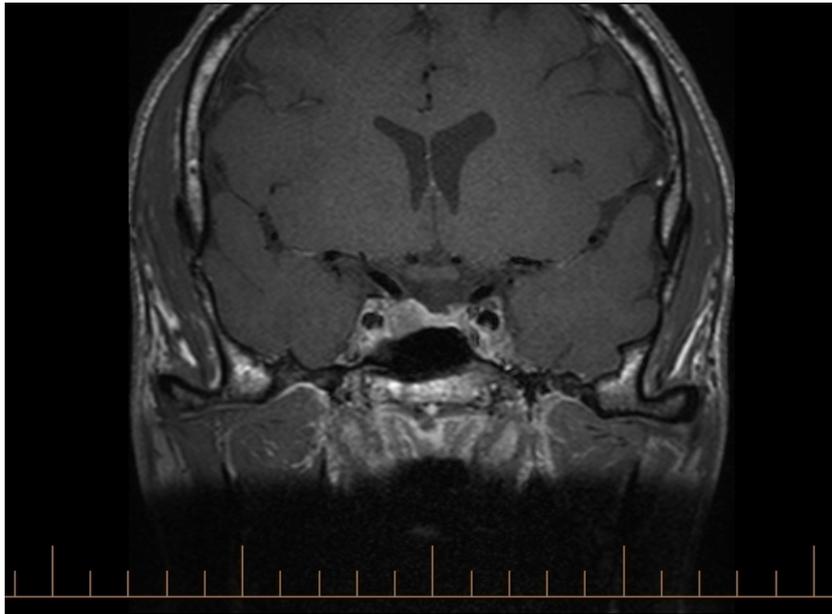
Essay Questions

Write your response in the answer book provided.

Clearly number the question you are answering.

Question 1

A 27 year old female presented with increasing weight gain. Serum and urinary cortisol levels were elevated and a MRI was performed.



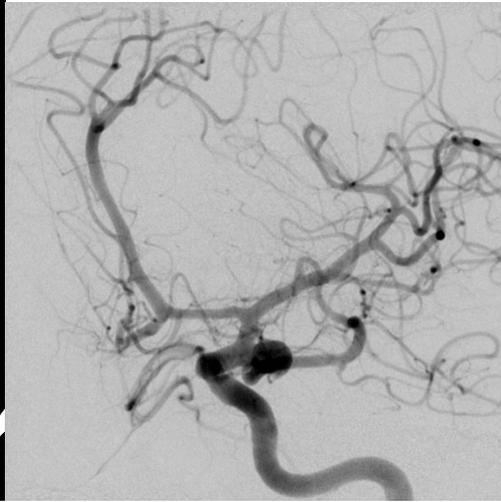
1. What are the important features on MRI of a pituitary tumour? Relate these to the MRI above.
2. Discuss in detail the endocrinological investigations that are required to diagnose Cushing's Disease. How do you differentiate Cushing's Disease from Cushing's Syndrome.
3. Outline in detail your discussion with the patient to obtain informed consent for transsphenoidal excision of an adenoma.
4. 5 years after initial presentation and endocrinological cure, the patient represents with recurrent Cushing's Disease. Outline your treatment options and management.

Question 2

A 54 year old right-handed male had a sudden onset of headache without collapse. Examination revealed that he was alert, had mild neck stiffness and no focal neurological signs. He had a head CT and cerebral angiogram.



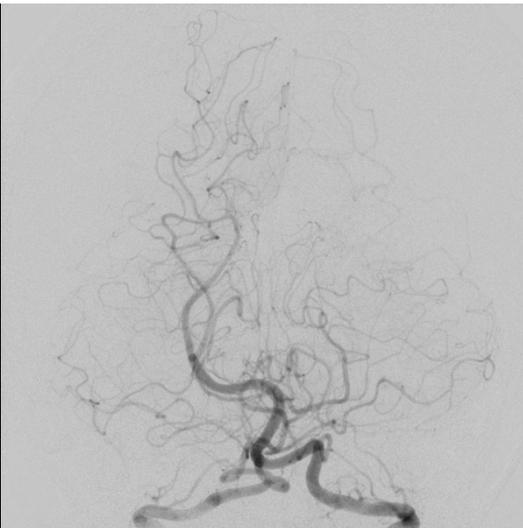
Head CT



Left carotid angiogram, AP



Left Carotid angiogram, 3-D reconstruction



Left vertebral angiogram

1. Describe the head CT and define the Fisher grades. What is the significance of the Fisher grades?
2. Discuss the various management strategies for this aneurysm and how you would manage this case. In your answer, justify your management choice.
3. Discuss the prevention and treatment of cerebral vasospasm.

Question 3

1. Outline the embryology of the lumbar disc.
2. Describe the anatomy of the Lumbosacral plexus. Please include a diagram in your answer.
3. Describe the vascular anatomy of the mid thoracic spinal cord.



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Written Paper Two

Tuesday 20 August 2013

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

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 Book of 5 pages
- Answer Book

Instructions to candidates:

- Write your candidate number on the front of each Answer Book.
- Write your response in the Answer Book provided.
- All answers must be written in English.

At the end of the examination, candidates are to leave the Question Book 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 devices into the examination room.

Candidate Number:

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Section One: Essay Questions

Write your response in the answer book provided.

Clearly number the question you are answering.

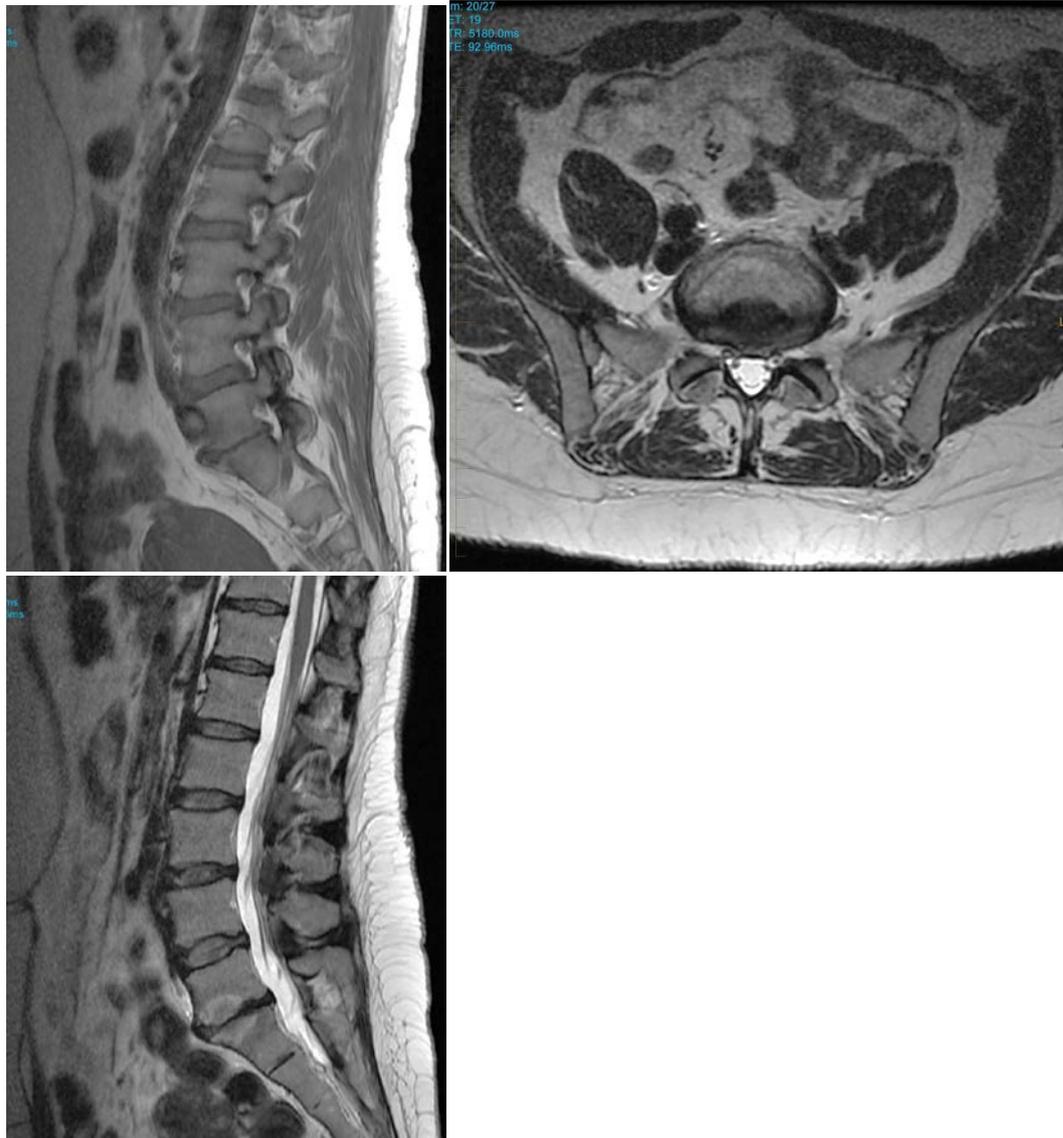
Question 1

A 9 year old boy who had a VP shunt placed 3 months ago, presented with headaches and confusion. Examination revealed a temp of 38C and neck stiffness. The CT shows the shunt within the ventricle.

1. Discuss the measures to decrease infection related to shunt insertion at the time of initial shunt insertion.
2. How do you diagnosis a shunt infection? List the common bacteria and the appropriate antibiotics.
3. Describe in detail the management of a shunt infection.

Question 2

The MRI relates to a 45 year old female with severe lower back pain for greater than 6 months who has had no response to physiotherapy.



1. Describe the abnormal findings on the MRI.
2. Discuss the controversy of the surgical management of discogenic back pain.
3. Describe the surgical technique of a posterior lumbar interbody fusion. Include in your response the important anatomical features relevant to the surgery.

Section Two - Short Answer Questions

Write your response in the answer book provided.

Clearly number the question you are answering.

Question 3

Write short notes on the following:

1. Outline the treatment of status epilepticus.
2. Discuss the diagnosis of CJD and its neurosurgical implications.
3. What are the clinical features of Wallenberg syndrome and the anatomy involved?
4. List the diagnostic criteria of neurofibromatosis I and II.
5. Describe the principles of magnetic resonance imaging and how the different sequences are useful for neurosurgery.