

Syllabus	
Topic	Posterior Fossa Surgery

A 34 year old man is scheduled for posterior fossa tumour resection in the sitting position

**a)**

List the contents of the posterior fossa (3 marks)

1. ....
2. ....
3. ....

**b)**

List 3 contraindications for the sitting position (3 marks)

1. ....
2. ....
3. ....

**c)**

Other than the sitting position, list 2 risk factors for intraoperative venous air embolism (2 marks)

1. ....
2. ....

**d)**  
 Give 3 monitoring techniques (3 marks) and associated findings (3 marks) which would indicate a venous air embolism

Monitoring Technique	Associated Finding
1) ..... ..... .....	..... ..... .....
2) ..... ..... .....	..... ..... .....
3) ..... ..... .....	..... ..... .....

**e)**  
 List 4 specific steps in the management of significant air embolism (4 marks)

1. ....
2. ....
3. ....
4. ....

**f)**  
 Name 2 other serious complications of the sitting position (2 marks)

1. ....
2. ....

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Q	Answer	Mark	Guidance
a)	<ul style="list-style-type: none"> <li>• Brainstem</li> <li>• Cerebellum</li> <li>• Lower cranial nerves</li> <li>• Venous sinuses (sigmoid/transverse/occipital)</li> </ul>	3	
b)	<ul style="list-style-type: none"> <li>• Ventriculo-atrial shunt</li> <li>• Right to left heart shunt</li> <li>• Autonomic neuropathy</li> <li>• PFO</li> <li>• Uncontrolled hypertension</li> <li>• Extremes of age</li> </ul>	3	
c)	<ul style="list-style-type: none"> <li>• Low venous pressure/hypovolaemia</li> <li>• Large surface area of open sinuses/duration of exposure</li> <li>• Head pins</li> </ul>	2	
d)	<ul style="list-style-type: none"> <li>• Precordial doppler <ul style="list-style-type: none"> <li>○ Change in sound</li> </ul> </li> <li>• Transoesophageal echo <ul style="list-style-type: none"> <li>○ Air visible within chambers</li> </ul> </li> <li>• Precordial/oesophageal stethoscope <ul style="list-style-type: none"> <li>○ Millwheel murmur</li> </ul> </li> <li>• EtCO<sub>2</sub> <ul style="list-style-type: none"> <li>○ Sudden decrease</li> </ul> </li> <li>• ETN<sub>2</sub> <ul style="list-style-type: none"> <li>○ Sudden increase</li> </ul> </li> </ul>	6	1 mark for each monitoring technique (max. 3) and 1 mark for each associated finding (max. 3)
e)	<ul style="list-style-type: none"> <li>• Flood surgical site with saline/soaked swabs</li> <li>• Lower surgical site to below right atrium. Sustained positive airway pressure until this is achieved</li> <li>• Aspirate air from central line</li> <li>• Left lateral (Durant) or trendelenberg position</li> <li>• Jugular vein compression (with caution)</li> </ul>	4	
f)	<ul style="list-style-type: none"> <li>• Pneumocephalus</li> <li>• Macroglossia</li> <li>• Tetraplegia</li> </ul>	2	