

**Title: Lung cancer resection**

**Aim:** To assess FCAI candidates knowledge of lung cancer impact on pulmonary function, investigations assessing suitability for lung resection, one lung ventilation (OLV) and regional anaesthesia for thoracic surgery.

**Curriculum reference:**

CT\_M\_18 ; CT\_M\_22; CT\_M\_23; CT\_M\_24

A 60 year old man has suffered from cough, intermittent hemoptysis and weight loss for 2 months. He has smoked 20 cigarettes / day for 40 years.

A CXR revealed a right middle lobe infiltrate, treated with antibiotics without improvement. Subsequent evaluation revealed a carcinoma. He is now scheduled for video-assisted thoracoscopic (VATS) +/- open lobectomy.

- a). What is hypoxic pulmonary vasoconstriction (HPV) ? What are the effects of anesthetic agents on HPV and the clinical implications of this ? **(3 marks)**
- b). Discuss pulmonary blood flow distribution, ventilation and shunt flow during single-lung ventilation in the lateral position **(5 marks)**
- c). What are the pulmonary function values that indicate increased risk for morbidity and mortality ? Outline reasons for recent changes in these values **(5 marks)**
- d). What are the indications for single lung ventilation ? **(4 marks)**
- e). List possible causes of shoulder tip pain. **(2 marks)**  
List the different regional analgesia options. **(2 marks)**  
Outline side effects, complications and ways of minimizing risk of complications thoracic epidural analgesia, **(4 marks)**

<b>Answer</b>	<b>25 Marks</b>
<p>a).</p> <p><b>1 mark for correct definition HPV, max 2 marks for clinical implications</b></p>	<p><b>3</b></p>
<p>b). <b>2 marks for correct R v L, 1 mark for decubitus, 1 for mechanical effect, 1 for impact paralysis</b></p>	<p><b>5</b></p>

<p><b>c). 1/2 mark up to max 3 for predictive factors Up to 2 marks for recent changes</b></p>	<p><b>5</b></p>
<p><b>d).</b></p> <p><b>1/2 mark for each correct point, to a maximum of 4 marks</b></p> <p><b>e).</b></p> <p>Shoulder tip pain</p> <p><b>Up to 2 marks</b></p> <p>\ RA options</p>	<p><b>4</b></p> <p><b>2</b></p>

**1/2 mark for each correct point, to maximum of 2 marks**

Epidural Analgesia complications

**2**

**Up to 2 marks**

Minimising risk of Complications

**2**

**Up to 2 marks**

**2**

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