

## Respiratory medicine (41859)

### Self-assessment questionnaire

SAQs and answers are ONLINE for RCP Fellows and Collegiate Members

The SAQs printed in the CME section can only be answered online to achieve external CPD credits. The closing date is 21 May 2009 (midnight GMT).

We recommend that answers are submitted early so that any problems can be resolved before the deadline. Any comments should be sent in via email only: [clinicalmedicine@rcplondon.ac.uk](mailto:clinicalmedicine@rcplondon.ac.uk)

#### Format

SAQs follow a best of five format in line with the MRCP(UK) Part 1 exam. Candidates are asked to choose the best answer from five possible answers.

#### The answering process

- To access the questions, log on to the Fellows and Members area  
[www.rcplondon.ac.uk/Members](http://www.rcplondon.ac.uk/Members)  
Please contact the Information Centre if you have lost or forgotten your username or password: [infocentre@rcplondon.ac.uk](mailto:infocentre@rcplondon.ac.uk)
- Select: **Self assessment**
- At the top of the SAQ page select the current CME question paper
- Answer all 10 questions in any order, by selecting the best answer
- Click on **Submit for final marking**.

After submitting your answers NO changes can be made.

#### The marking process

- You must submit the answers before the closing date shown at the top of the screen
- Answers will be marked automatically on the date displayed for that paper
- You can find your marks on the CME page under **My past CME papers**.

#### Registering your external CPD credits

A pass mark of 80% allows you to claim two external CPD credits. Only the first seven distance-learning credits will be counted as external; the remainder can be claimed as personal credits. Credits can be recorded using the online diary system. All *Clinical Medicine* SAQs are listed under **External Approved CPD**.

- A 72-year-old man with a history of chronic obstructive pulmonary disease (COPD) and type 2 respiratory failure presents with a one-hour history of central crushing chest pain and breathlessness. Examination reveals raised jugular venous pressure and bibasal crackles. His electrocardiogram shows anterior ST segment elevation. What is the most appropriate treatment?

  - High concentration oxygen until blood gases are obtained
  - Oxygen by a 28% Venturi mask, aiming for saturations of 88–92%
  - Oxygen to achieve peripheral oxygen saturations of 94–98%
  - Oxygen to achieve peripheral oxygen saturations of 94–98%, dropping to 88–92% if hypercapnia is present
  - Oxygen to achieve peripheral oxygen saturations of 94–98%, dropping to 88–92% when pulmonary oedema is treated
- A 55-year-old woman is admitted with community-acquired pneumonia (CAP) on a background of fibrotic lung disease. She was becoming progressively more breathless at home but still able to go shopping and climb stairs before developing pneumonia. She is treated in standard fashion and, prior to discharge, feels almost back to her normal state with saturations of 89% on room air, dropping to 83% mobilising around the ward. Resting arterial blood gases (ABGs) show PaO<sub>2</sub> 6.9 kPa. What is the most appropriate action?

  - Ambulatory oxygen to bring saturations above 90% and reassess in two months with a diary card to see if it should be continued
  - Discharge without oxygen and reassess in five weeks
  - Long-term oxygen therapy (LTOT) (to achieve PaO<sub>2</sub> >8 kPa) and ambulatory oxygen to bring saturations above 90% and reassess in five weeks to see if they should be continued
  - LTOT (to achieve PaO<sub>2</sub> >8 kPa) and reassess in five weeks to see if it should be continued
  - Short-burst oxygen therapy until reassessment in five weeks
- A 45-year-old man with chronic asthma is referred by his general practitioner (GP) with recurrent cough and sputum production. He has had four exacerbations of asthma in the past year and a history of bilateral pneumonia five years previously. He has never smoked. Sputum cultures yield a light growth of aspergillus species. Computed tomography (CT) chest scan shows proximal bronchiectasis. What is the most likely aetiology of the bronchiectasis?

  - Allergic bronchopulmonary aspergillosis
  - Churg-Strauss syndrome
  - Cystic fibrosis
  - Immunoglobulin subclass 2 deficiency
  - Pneumonia
- A 60-year-old man with severe bronchiectasis (FEV<sub>1</sub> 1.5l, 53% predicted) is referred by his GP with an exacerbation that has not responded to 10 days of amoxicillin 500 mg three times daily. His usual medication comprises inhaled

- salbutamol as required and inhaled beclomethasone 1 mg daily. He continues to feel unwell and both sputum volume and viscosity are increased. He has never smoked. Sputum cultures regularly yield *β*-lactamase-negative *Haemophilus influenzae*. CT chest scan shows bilateral extensive cystic bronchiectasis. What is the most appropriate treatment?
- Inhaled tiotropium
  - Intravenous (iv) ceftazidime
  - iv piperacillin/tazobactam
  - Oral amoxicillin 3 g twice daily
  - Oral prednisolone
- 5 A 48-year-old man presents to the sleep disorders clinic with persistent daytime somnolence despite treatment of his obstructive sleep apnoea with continuous positive airway pressure (CPAP). He has never smoked. He weighs 145 kg and his height is 1.63 m. Thyroid function tests are normal. In the clinic his ABGs are pH 7.42, PaCO<sub>2</sub> 7.61 kPa, PaO<sub>2</sub> 10.17 kPa and base excess (BE) 5.3. Previous spirometry confirmed a restrictive defect with preserved sniff nasal pressures. After his previous appointment, an overnight sleep study on CPAP showed profound periods of desaturation. What is the most appropriate next management step?
- Arrange admission for initiation of non-invasive ventilation (NIV)
  - Book invasive respiratory muscle testing
  - Organise a self-ventilating overnight oximetry and capnography study
  - Perform an early morning ABG
  - Request high-resolution CT scan of the chest
- 6 A 45-year-old woman with a 60-pack-year smoking history presents with acute shortness of breath, chest tightness and ankle oedema one week after receiving an influenza vaccination. She has no relevant past medical history. On examination, her body mass index is 19 kg/m<sup>2</sup>, she is centrally cyanosed and confused with a Glasgow Coma Score of 12. ABG analysis reveals pH 7.29, pO<sub>2</sub> 5.4 kPa, pCO<sub>2</sub> 11 kPa, bicarbonate 35 mmol/l and carboxyhaemoglobin 11%. What is the most appropriate next management step?
- Hyperbaric oxygen therapy
  - iv infusion of doxapram
  - iv infusion of salbutamol
  - Intubation and ventilation
  - NIV
- 7 A 73-year-old man admitted to hospital 24 hours previously with an acute exacerbation of COPD is reviewed on the post-take ward round. His baseline FEV<sub>1</sub> is 35% predicted. He is on LTOT and is being treated with nebulised salbutamol two-hourly, oral antibiotics, prednisolone, digoxin and furosemide. He continues to complain of chest tightness, breathlessness and cough, and on examination is wheezy with a respiratory rate of 25 bpm. His oxygen saturation is 90% on 2 litres of oxygen via nasal cannulae. His heart rate is 100 bpm in atrial fibrillation. The admission chest X-ray shows hyperinflated lung fields and an enlarged heart. What is the most appropriate next step?
- Add low-molecular weight heparin at the treatment dose for pulmonary embolism
  - Add regular nebulised ipratropium
  - Change from oral prednisolone to iv hydrocortisone
  - Increase the oxygen delivered to 4 litres per min
  - Urgent chest physiotherapy
- 8 A 55-year-old man presents with a large (2/3rd of hemithorax) unilateral pleural effusion. On aspiration, the fluid is an exudate (protein 46 g/l). Culture and cytology are negative. What is the most appropriate next management step?
- Bronchoscopy
  - Chest drain insertion and drain to dryness
  - Clinical follow-up in three months
  - Contrast-enhanced thoracic CT scan
  - Repeat pleural fluid aspiration for pleural fluid amylase level
- 9 A 75-year-old woman presents with a two-month history of progressive shortness of breath and weight loss. Investigations reveal mild normocytic anaemia, normal inflammatory markers and a large left pleural effusion. Pleural aspiration yields an exudative fluid (protein 37 g/l), pH 7.16 and negative microbiology and cytology. What is the most appropriate next management step?
- Abram's pleural biopsy
  - Autoimmune screen
  - Chest drain insertion
  - iv antibiotics
  - Medical thoracoscopy
- 10 A 24-year-old man with type 1 diabetes is admitted with a one-week history of cough, fever and breathlessness. Investigations reveal raised inflammatory markers with right basal consolidation and a small (1/3rd of hemithorax) pleural effusion on the chest radiograph. He is started on antibiotic therapy for CAP, and the pleural effusion sampled under ultrasound guidance. The pleural fluid is non-purulent, pH 7.45. Pleural fluid microscopy reveals scanty Gram-positive cocci. What is the most appropriate next step?
- Blood cultures
  - Contrast-enhanced thoracic CT scan
  - Image-guided chest drain insertion
  - Medical thoracoscopy
  - Second aspirate of pleural fluid for microbiology