



Questions for this month's clinical challenge are based on articles in this issue. The clinical challenge is endorsed by the RACGP Quality Improvement and Continuing Professional Development (QI&CPD) program and has been allocated 4 Category 2 points (Activity ID:29451). Answers to this clinical challenge are available immediately following successful completion online at <http://gplearning.racgp.org.au>. Clinical challenge quizzes may be completed at any time throughout the 2014–16 triennium; therefore, the previous months answers are not published.

Each of the questions or incomplete statements below is followed by four or five suggested answers or completions. Select the most appropriate statement as your answer.



# Clinical challenge

## Case 1 – Gregor

Gregor, a builder aged 32 years, presents with 6 months of daily cough. He is overweight and has smoked five cigarettes daily for the past 10 years but is otherwise well. The cough is worse during the day but also occurs in the evenings.

### Question 1

Which of the following features on history would support a diagnosis of asthma?

- A. Night time wheeze
- B. No associated shortness of breath
- C. No family history of asthma
- D. Stridor
- E. Poor exercise tolerance

### Question 2

As part of your assessment of Gregor, he completes spirometry at the clinic. His results fail to show reversibility of his mild-to-moderate airflow obstruction following inhalation of salbutamol.

What is the most appropriate next step in the investigation and management of Gregor's condition?

- A. Computed tomography (CT) scan of the chest to look for interstitial lung disease
- B. Consideration of bronchial provocation testing
- C. Induced sputum eosinophil count
- D. Referral for bronchoscopy

## Question 3

Following further investigation, a diagnosis of asthma, probably triggered by occupational exposure to composite woods, is confirmed.

The expected response on lung function testing following appropriate asthma treatment would be:

- A. reduction in symptoms, decrease in forced expiratory volume in 1 second (FEV<sub>1</sub>) and increase in peak expiratory flow rate (PEFR)
- B. reduction in symptoms, increase in FEV<sub>1</sub> and decrease in PEFR
- C. reduction in symptoms, increase in FEV<sub>1</sub> and PEFR
- D. reduction in symptoms, decrease in FEV<sub>1</sub> and PEFR.

## Question 4

Gregor has a partial reduction in his symptoms and increase in his FEV<sub>1</sub> after 4 weeks of inhaled corticosteroid therapy.

What is the next most appropriate step in Gregor's management?

- A. Advise him to change his job.
- B. Prescribe a 5-day course of oral prednisolone 50 mg daily.
- C. Review his inhaler technique and check adherence to therapy.
- D. Step up to combined corticosteroid/longer acting beta-2-agonist therapy.

## Case 2 – Janine

Janine is a receptionist, aged 56 years, who presents complaining of 5 days of left-sided lower rib pain. She is fit and well and takes no regular medications. She describes sharp, fairly constant pain in her left lower ribs and you are able to reproduce this pain by palpation of a point over the costal margin. There is no history of injury. Janine finds that certain movements aggravate the pain.

### Question 5

Janine's presentation is most consistent with a diagnosis of:

- A. costochondritis
- B. fibromyalgia
- C. lower rib pain syndrome
- D. osteoporotic fracture
- E. sternalis syndrome.

### Question 6

The most appropriate initial management advice for Janine is:

- A. injection of corticosteroid/local anaesthetic to the painful area
- B. referral for chest X-ray to look for rib fracture
- C. referral for physiotherapy
- D. starting regular, long-acting tramadol 100 mg BD
- E. temporarily avoiding aggravating activities.

### Question 7

Janine has seen a chiropractor for management of back pain and asks if you think this would help her problem. What can you tell Janine about the evidence for the efficacy of physical therapies for treatment of musculoskeletal chest wall pain?

- A. There is high level evidence for the benefit of acupuncture at 4 weeks.
- B. There is high level evidence for the benefit of chiropractic treatment both at 4 weeks and at 3 months follow-up.
- C. There is high level evidence for the benefit of physiotherapy at 4 weeks.
- D. There is some evidence for the benefit of chiropractic treatment at 4 weeks but this is not sustained at 3 months.
- E. There is some evidence for the benefit of physiotherapy at 4 weeks but this is not sustained at 3 months.

### Question 8

Which of the following could be considered a rare cause of isolated musculoskeletal chest wall pain?

- A. Costochondritis
- B. Lower rib pain syndromes
- C. Pain from thoracic spine
- D. Sternalis syndrome
- E. Stress fractures

### Case 3 – Gordon

Gordon, 70 years of age, presents with a 6-month history of increasing breathlessness on exertion. You have been looking after Gordon for many years. He currently smokes five cigarettes per day and has a 25-pack year smoking history. Gordon is a retired school teacher and does not recall any relevant occupational or recreational exposures.

One of your differential diagnoses for Gordon is interstitial lung disease.

### Question 9

Which of the following features would be suggestive of interstitial lung disease?

- A. Moist cough
- B. Resting hypoxia

- C. Coarse lung crepitations
- D. Digital clubbing

### Question 10

As part of your work up for Gordon, you arrange lung function tests. Which of the following is a typical finding in a lung function test for interstitial lung disease?

- A. Increased lung volume
- B. High FEV1
- C. Low FEV1/FVC ratio
- D. Low FVC
- E. Raised diffusing capacity of the lungs for carbon monoxide (DLCO)

### Further information

You refer Gordon to a respiratory physician who advises that Gordon has interstitial lung disease, most probably idiopathic interstitial pneumonia. You have read that it is very important to make an accurate diagnosis of interstitial lung disease as different subtypes may require specific management strategies.

### Question 11

Which of the following diseases is classified as a subtype of idiopathic interstitial pneumonia?

- A. Hypersensitivity pneumonitis
- B. Pulmonary manifestation of scleroderma
- C. Idiopathic pleuroparenchymal fibroelastosis
- D. Lymphangioleiomyomatosis
- E. Pulmonary Langerhans cell histiocytosis

### Question 12

What is the gold standard for confirming a diagnosis of interstitial lung disease?

- A. Multidisciplinary discussion
- B. High resolution CT
- C. Surgical lung biopsy
- D. Bronchoscopy
- E. 6-minute corridor walk test

### Question 13

Gordon is formally diagnosed with idiopathic pulmonary fibrosis. He asks you if there is any medication he can

take to help with his lung disease.

Which of the following options may reduce the decline in lung function in idiopathic pulmonary fibrosis?

- A. Prednisolone
- B. Azathioprine
- C. Mycophenolate
- D. Cyclophosphamide
- E. Nintedanib

### Case 4 – Janet

Janet, 59 years of age, presents with a productive cough that has persisted for 1 week in association with fever and right-sided pleuritic chest pain. On examination, her temperature is 38.9°C and she has crackles in the right lower lobe. You suspect she has pneumonia and refer her for a chest X-ray.

### Question 14

Which of the following is NOT an appropriate indication for chest X-ray referral?

- A. Suspected pneumonia
- B. Acute dyspnoea
- C. Haemoptysis
- D. Suspected pneumothorax
- E. Suspected rib fracture

### Question 15

Janet is diagnosed with pneumonia and treated with an appropriate course of antibiotics. On a follow-up chest X-ray, 6 weeks after her initial diagnosis, a persisting opacity is noted and she is referred for a CT scan.

Which of the following statements regarding CT scans of the chest is CORRECT?

- A. Standard CT uses a smaller minimum slice thickness than high-resolution CT.
- B. Intravenous contrast is contraindicated in patients with underlying renal impairment.
- C. Additional lifetime risk of fatal cancer due to radiation exposure is minimal.
- D. High-resolution chest CT is generally used for assessment of interstitial diseases.