



Questions for this month's clinical challenge are based on articles in this issue. The style and scope of questions is in keeping with the MCQ of the College Fellowship exam. The quiz is endorsed by the RACGP Quality Assurance and Continuing Professional Development Program and has been allocated 4 CPD points per issue. Answers to this clinical challenge will be published next month, and are available immediately following successful completion online at www.racgp.org.au/clinicalchallenge. Check clinical challenge online for this month's completion date.

Jennifer Presser

SINGLE COMPLETION ITEMS

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

Case 1 – Joe Cavenagh

Joe Cavenagh, aged 79 years, returns to your practice with 48 hours of fever, vomiting and diarrhoea after eating a chicken kebab that had been left sitting in the car for a few hours. His stool culture has grown *Salmonella*.

Question 1

Regarding *Salmonella* gastroenteritis, which of the following is true:

- A. infections are caused by ingesting contaminated food or water or contact with another infected individual
- B. *Salmonella* is the most commonly isolated pathogen causing food borne illness in Australia
- C. gastroenteritis caused by *Salmonella* is often clinically distinguishable from gastroenteritis caused by other pathogens
- D. many patients have moderate to severe disease
- E. it is complicated by bacteraemia in 15% of cases.

Question 2

Regarding Joe's stool samples, which of the following is correct:

- A. three samples should be collected on three different occasions
- B. microscopy is recommended in patients with severe symptoms, recent overseas travel, recurrent or persistent diarrhoea, and in the immunocompromised
- C. the first part of the motion should be sent
- D. A and B
- E. all of the above.

Question 3

In managing Joe, which of the following is true:

- A. the primary aim is to ensure adequate rehydration
- B. the risk of endovascular infection is estimated to be 20% in those over 50 years of age
- C. in fever persisting beyond 24 hours investigation for complications or an alternate diagnosis should be considered
- D. antimotility agents should be used to prevent severe dehydration
- E. A, B and C.

Question 4

S. Typhi and *S. Paratyphi* cause enteric fever. For suspected enteric fever, which of the following is true:

- A. *S. Typhi* and *S. Paratyphi* are endemic in parts of tropical northern Australia
- B. clinical symptoms are often typical and readily recognisable
- C. commonly there is a progressive stepwise fever and abdominal

symptoms

- D. complications are possible in untreated infection, with a mortality of 2%
- E. rose spots appear in 80% of patients.

Case 2 – Vivien Wilkes

Vivien Wilkes, aged 57 years, attends your practice concerned that her chest infection is not improving. She is a smoker and has been taking amoxycillin for 3 days. She says her temperature has been getting worse, and she has some abdominal pain and diarrhoea.

Question 5

Features suggesting *Legionella* as a cause of pneumonia do NOT include:

- A. diarrhoea
- B. confusion
- C. high fever
- D. hepatic dysfunction
- E. thrombophilia.

Question 6

Which of the following is true of *Legionella* community acquired pneumonia (CAP):

- A. *Legionella* accounts for approximately 1% of patients hospitalised with CAP
- B. clinical features are of moderate to severe typical respiratory illness
- C. *Legionella* infections are all linked to contaminated water sources, particularly air conditioning cooling towers
- D. *Legionella* does not grow on routine bacterial culture media
- E. the majority of patients have a normal chest X-ray at presentation.

Question 7

Which of the following does NOT show a strong association with *Legionella* infection:

- A. close contact with infected persons
- B. smoking
- C. age over 50 years
- D. chronic pulmonary disease
- E. immunosuppression.

Question 8

If you suspect *Legionella* CAP what should your management include:

- A. *Legionella* urinary antigen test and PCR

- B. azithromycin or doxycycline
- C. consideration of hospital admission
- D. chest X-ray
- E. all of the above.

Case 3 – Pauline Tran

Pauline Tran, aged 34 years, attends your practice for a medical certificate. She says she has caught 'the flu' from her office colleagues and has fevers, headache, myalgia, severe fatigue, cough and a runny nose.

Question 9

Which of the following is true regarding influenzae:

- A. influenza A causes only minor respiratory illness
- B. influenza B causes moderate illness
- C. influenza C is associated with significant symptoms and the tendency to cause epidemics
- D. the incubation period for influenza is 5–21 days
- E. viral shedding peaks late in the illness, typically as symptoms are beginning to resolve.

Question 10

Regarding influenza A subtypes, which of the following is FALSE:

- A. subtypes are named to reflect the presence of haemagglutinin (H) and neuraminidase (N) spikes on the viral surface (antigens)
- B. H and N are similar to human cell surface proteins which allows the virus to attach to cell receptors and they are difficult for the immune system to recognise
- C. subtle variations in the antigens caused by genetic mutation gives rise to new subtypes by antigenic drift
- D. a major variation in the H and N antigens may cause antigenic shift
- E. after an antigenic shift populations will have little or no immunity to the virus.

Question 11

Which of the following advice for Pauline is INCORRECT:

- A. transmission of influenza is by droplet and aerosol spread, especially in confined spaces
- B. transmission can also occur by touching surfaces contaminated with respiratory droplets
- C. she could be infectious for up to 7 days after the onset of illness
- D. most symptoms last 10–14 days
- E. if she has chronic disease or risk factors for severe respiratory illness, seasonal influenza vaccination is recommended.

Question 12

Which of the following statements is true regarding influenza pandemics:

- A. in Hong Kong during SARS outbreaks 50% of general practices were closed
- B. outbreak modelling suggests that up to 25% of general practice working days may be lost at peak incidence
- C. Tasmanian modelling predicts that at an incidence of 35% in a population of 475 000, 2400 hospitalisations and 700 deaths could be expected

- D. an Australian study has shown that GPs were unwilling to participate in managing a pandemic due to concerns about practice preparedness
- E. at an incidence of 25%, 700 000 to 1.5 million outpatient visits may be required nationwide.

Case 4 – Michael Wentworth

Michael Wentworth, a registrar at your practice, is preparing to sit exams. Over lunch one day you speculate together about whether influenza pandemic preparation might be a topical issue for an exam question.

Question 13

Practice protocols required during an outbreak would include:

- A. triaging
- B. changes to workload
- C. testing and notification
- D. handling and disposal of infectious materials
- E. all of the above.

Question 14

Which of the following is true regarding personal protective equipment:

- A. people with beards will need to shave them off so that protective masks can fit properly
- B. sodium hypochlorite solution (1 in 10 dilution of a 50% bleach solution) can be used to clean contaminated surfaces
- C. no touch waste receptacles are recommended
- D. A and C
- E. all of the above.

Question 15

In discussing the role of vaccinations and antivirals, which of the following is INCORRECT:

- A. relative contraindications of antivirals include pregnancy, young children and significant renal impairment
- B. regular seasonal influenza vaccination is not recommended during a pandemic as it will confer no immune benefit
- C. pneumococcal pneumonia is likely to be a significant complication of pandemic influenza
- D. vaccination for a pandemic influenza strain is unlikely to be available until 3–6 months after the start of a pandemic
- E. A and B.

Question 16

For infection control in general practices during a possible influenza pandemic, which of the following is FALSE:

- A. consider a single entry point to the practice for patients
- B. remove toys and other fomites and noncleanable surfaces
- C. educate staff and patients in hand washing and cough etiquette
- D. consider a range of options for potentially infectious patients, eg. initial phone consultation, seeing patients in their cars, referral to a fever clinic
- E. patients should be carefully triaged as there will not be sufficient resources to assume that all patients are potentially infectious.

ANSWERS TO SEPTEMBER CLINICAL CHALLENGE

Case 1 – Joseph Fadelli**1. Answer B**

Asthma prevalence in indigenous and lower socioeconomic groups has not declined. Nor have attendances at emergency departments from 1999–2004. Less than a quarter of asthmatics have a written action plan, only 14% report taking inhaled corticosteroids daily and the majority are taking the most potent strength.

2. Answer E

A validated questionnaire can be used to assess control of chronic asthma symptoms. Inhaler technique should be checked routinely. Wheeze may or may not be present in a nonacute setting. Swollen red nasal mucosa and clear discharge can be seen in allergic rhinitis. Treatment of allergic rhinitis can improve asthma control.

3. Answer E

Spirometry is being used increasingly in Australian general practice and can provide diagnostic and ongoing measurement of lung function in the general practice setting. Children can attempt spirometry from the age of 6 years.

4. Answer B

Doubling the dose of inhaled steroid in early exacerbations is not considered useful. A much higher dose of steroid is recommended.

Case 2 – Paige Greenaway**5. Answer D**

Type 2 diabetes affects 7.1% of the Australian population, and this prevalence is increasing. This is reflected in general practice where 2.5% of encounters are for diabetes.

6. Answer D

With a fasting blood sugar level of 7.0 mmol/L or more, diabetes is likely. If a person is asymptomatic, a second fasting sugar of 7.0 mmol/L or more on a separate day is required to confirm the diagnosis.

7. Answer A

Diabetes shortens life expectancy by up to 15 years; people with diabetes are 2–4 times more likely to have a cardiac infarction or a stroke with about 65% of people with diabetes dying from cardiovascular disease. Diabetes is 2–4 times more prevalent among indigenous people.

8. Answer C

Implementing multidisciplinary team care plans has been demonstrated to improve adherence to guidelines and metabolic control, especially where patients are involved in setting their own treatment goals. Decision support and information systems have been demonstrated to improve quality of care and some patient outcomes. Group self management programs are generally more effective than those offered on a one-to-one basis. There is limited evidence that printed material alone is effective in controlling

diabetes. Up to 50% of people with type 2 diabetes are poorly controlled.

Case 3 – Bruno Schuster**9. Answer B**

Cancer survival may improve as a result of multidisciplinary team (MDT) involvement. This is especially important in low incidence cancers where survival can be significantly impacted by the experience of the clinical team.

10. Answer E

Cancer Australia is developing cancer teams in each state and territory through the CanNET program. It is looking at ways of getting information to GPs about where appropriate specialist teams are located and referral pathways.

11. Answer C

The impact of cancer may persist, even after prolonged survival. Cancer survivors report themes that include the struggle between independence and dependence, reclaiming life, dealing with multiple losses and the altered meaning of health. Surveillance is often a time of anxiety, because there is no active treatment. Transfer of care from the oncology team can also be a stressful experience.

12. Answer B

The incidence of cancer is rising rapidly along with the age of Australia's population.

Case 4 – Wendy Umala**13. Answer A**

In studies with longer follow up periods the majority (77.5%) of patients with depression will relapse or have a chronic course.

14. Answer C

Patient age is not a risk factor for recurrent depression.

15. Answer B

Depression treatment guidelines recommend maintaining a treatment regimen for at least 1 year, and where there is significant risk of recurrence for 3 years. SSRIs can be considered in persistent mild depression.

16. Answer D

Relapse of depression refers to the early return of symptoms. Recurrence is the later return of symptoms after a period of remission. Psychological therapies such as mindfulness based cognitive therapy involving cognitive behavioural skills and meditation reduce depression recurrence.