

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.

Steve Trumble

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.

Doing a locum on Honeymoon Island seemed like a good idea at the time – your family gets to have an all expenses paid holiday in paradise, while you look after the trivial health concerns of the small numbers of guests and staff that inhabit this tropical jewel off the coast of Queensland. Unfortunately, things are not always what they seem...

Case 1 – Chiaki Ohdaijini

Mr and Mrs Ohdaijini are spending 3 days on Honeymoon Island along with their 5 month old daughter, Chiaki. They both work in clerical positions in Tokyo. Chiaki was unwell before leaving Japan (10 days of runny nose, runny eyes and a mild cough) but they were keen to come. Since arriving on Honeymoon Island, Chiaki's little body has been wracked by paroxysmal coughing.

Question 1

The paroxysmal cough of pertussis is characterised by:

- 5–10 powerful coughs followed by a deep and noisy inspiration
- alternating coughs and deep and noisy inspirations
- a 'hot potato' style muffled cough
- production of copious amounts of green sputum
- at least 20 rapid fire coughs followed by a whooping expiration.

Question 2

Chiaki's parents are horrified by her appearance during her paroxysms. Complications of pertussis include all of the following EXCEPT:

- rectal prolapse
- intracranial haemorrhage
- pneumothorax
- severe acidosis
- melaena.

Question 3

Regarding laboratory diagnosis of pertussis, which of the following is true:

- laboratory diagnosis of pertussis is a sensitive tool
- a negative PCR test excludes pertussis
- direct fluorescent antibody testing of nasopharyngeal specimens is the gold standard
- a cotton swab must be used to collect samples for *B. pertussis* culture
- patients might be unwell for 6 weeks before serology for *B. pertussis* becomes positive.

Question 4

You notify the local health department of your suspicions and Chiaki is moved to the mainland for hospital treatment. You now need to assess the risk of pertussis to your fellow Honeymoon islanders. Which of the following is thought to be true:

- effective childhood immunisation against pertussis provides lifelong protection
- there is a strong argument for GPs to be vaccinated against pertussis with dTpa (Boostrix)
- infection with pertussis provides lifelong immunity
- adult staff will be protected against pertussis by their mandatory pre-employment ADT booster
- recent pertussis infection in adults is a contraindication to vaccination.

Case 2 – Tony Petsalis

Later in the day you are summoned to the home of Tony Petsalis, the reclusive owner of Honeymoon Island who lives in a mansion high on the crest of the island. Tony has had diabetes, hypertension and hyperlipidemia for many years. He wants his tests done.

Question 5

Which of the following is true regarding microalbuminuria?

- microalbuminuria is first detected when diabetic nephropathy is well advanced
- microalbuminuria shows that the glomeruli are failing to recapture albumin from Bowman's capsule
- plasma creatinine depends on glomerular filtration rate
- creatinine production is independent of muscle mass
- reduced glomerular filtration rate is always associated with microalbuminuria.

Question 6

Tony shifts his bulk in his hammock and demands the most direct test for GFR that money can buy. Which of the following can be used in reliably measuring GFR?

- insulin
- inulin
- neulin
- lanolin
- scotch.

Question 7

You note from Tony's records that his usual doctor started him on an angiotensin converting enzyme inhibitor a few weeks before his last blood tests, with a satisfactory improvement in his blood pressure. His plasma creatinine has increased by 10% from the previous measurement, although it remains within the reference range. Which of the following is true:

- ACE inhibitors increase GFR
- angiotensin receptor antagonists have no effect on GFR
- the 10% variation in Tony's P-creat warrants cessation of the ACE inhibitor
- angiotensin increases glomerular pressure
- captopril is a long acting ACE inhibitor.

Question 8

If Tony's GFR were less than 30 mL/min, which of these drugs should he particularly avoid:

- A. spironolactone
- B. glibenclamide
- C. amiloride
- D. tetracycline
- E. all of the above.

Case 3 – Brenda Fortag

One of the best things about doing a locum on Honeymoon Island is the resort's Quality Improvement Manager, Brenda Fortag. Brenda is keen to apply a quality framework to the health care of the island's residents. She comes to see you to talk enthusiastically about her ideas. You tell her about the RACGP quality framework.

Question 9

The RACGP quality framework may be best described as:

- A. a method for reducing variability in the way GPs practise
- B. a mental model to help anyone make a thorough analysis of how to improve quality of care
- C. a structure for enhancing government rebates through the more systematic use of content based descriptors
- D. the Department of Health and Ageing's template for more cost efficient primary care
- E. a round, multicoloured thingy.

Question 10

Brenda asks what the approach was to improving quality in general practice before this framework came along. Which of the following is correct:

- A. there have been no previous approaches to quality improvement in general practice
- B. quality improvement approaches in general practice have traditionally focused on changing patient behaviour
- C. focussing on improving one component of the health care system at a time yields the best results
- D. practice accreditation, vocational training, and Fellowship of the RACGP are examples of quality improvement interventions for general practice
- E. there is clear evidence that undertaking multiple interventions is least effective in improving quality in general practice.

Question 11

The WONCA Working Party on Quality in Family Medicine defines 'quality' as:

- A. the best possible outcomes given available resources and the preferences and values of patients
- B. achieving governmentally defined key performance indicators
- C. a process whereby the risk is removed from health care
- D. an end that can only be achieved through a significant expansion of health care spending until it reaches 5% of GDP
- E. none of the above.

Question 12

Brenda's head is spinning. You finish by explaining that the six domains of the RACGP quality framework include:

- A. professionalism, competence and financing
- B. education, knowledge and information management
- C. patient focus, efficiency and regulation
- D. competition, competence and capacity
- E. truth, justice and the Australian way.

Case 4 – Mahadrel Juhita

Your next locum posting takes you into a practice that has a high proportion of refugees as patients – quite different from the indolence of a tropical resort. Your first patient is Mahadrel Juhita, a 43 year old scientist from the Sudan. She is the single parent of four children.

Question 13

In order to be eligible for a Medicare funded initial health check (items 714 or 716), Mahadrel must have:

- A. resided in Australia for no more than 12 months
- B. a record of her previous Medicare funded initial health check
- C. ability to speak English without an interpreter
- D. a different ethnic background to the doctor
- E. at least three chronic health problems.

Question 14

Doctors using the 714 item number are required to give the patient:

- A. a chest X-ray for TB screening
- B. a written report about the health assessment

- C. a referral to a local torture and trauma service
- D. a copy of the government's statement of core Australian values
- E. vaccination against hepatitis A and B.

Question 15

The highest level of work that the practice nurse or other health worker can perform in these initial health checks is:

- A. interpreting for the doctor
- B. chaperoning during intimate examinations
- C. recording the patient's consent
- D. the information collection component
- E. assistance with transport.

Question 16

During the course of the check, Mahadrel describes having several days of runny nose, sore throat, a mild fever and a dry cough. The most likely diagnosis is:

- A. pulmonary tuberculosis
- B. malaria
- C. schistosomiasis
- D. dengue fever
- E. viral respiratory tract infection.

ANSWERS TO DECEMBER CLINICAL CHALLENGE

Case 1 – Vincent Nguyen

1. Answer E

Radiological investigation of the initial presentation of low back pain is only indicated if one or more 'red flag' symptom is present, or if improvement is not occurring at 4–6 weeks.

2. Answer C

Bed rest – especially in something as inappropriate as a waterbed – is to be avoided. Simple analgesia is the first step in resolving his problem.

3. Answer E

Good evidence exists that prolonged rest – particularly in bed – is associated with delayed return to work and a prolongation of symptoms.

4. Answer B

Vincent needs a positive outlook, but realistic expectations. He may well have some mild residual symptoms and a tendency toward recurrence, but he should be back in his original job, albeit with some improved lifting practices.

Case 2 – Gretel Karath

5. Answer A

This question is not meant to enrage practice managers around the country; it merely serves to remind us that occupational psychosocial factors, psychological factors, and ergonomic factors may all be important.

6. Answer A

At this early stage you could expect your colleague to be conservative in approach, especially as the evidence in support of the active treatments listed is poor.

7. Answer C

This is a situation where the GP's roles as employer and clinician need to be separated as much as possible. Being available to her treating doctor to help identify and correct any occupational ergonomic or psychosocial factors without interfering in her treatment is the prudent approach.

8. Answer D

The identification and appropriate management of psychological issues can be central to treating work related upper limb disorders. If yoga helps Gretel to relax, then it's a good starting point.

Case 3 – Greg Wright

9. Answer B

It has been shown that a decline in morale is a stronger driver of stress related workers' compensation claims than a substantive increase in levels of distress.

10. Answer D

Case conferencing or liaison with a case manager can help to identify more realistic interim goals, to encourage the worker to maintain or redevelop a level of positive vocational engagement and to inhibit the progression of the declining morale trajectory. The operative principles here are attempting to 'maintain morale' by minimising time off work and 'keeping the injured worker connected to the workplace'.

11. Answer C

While the GP's approach is holistic by definition, there is some evidence that building Greg's morale base by first returning him to optimal function and vocational involvement will allow his psychological issues to be dealt with more effectively.

12. Answer A

Although Greg's GP might well empathise with his situation, it is inappropriate to try to find clinical solutions to his entanglement with the company's industrial problems.

Case 4 – Dolores Insegnante

13. Answer D

In most cases of acute back pain, bed rest has been shown to worsen outcomes especially with regard to return to work.

14. Answer A

Other potentially serious conditions to consider (but largely discount in this case) are fractures, spinal cord and nerve root compression, discitis, osteomyelitis, and systemic rheumatological conditions.

15. Answer D

In the early stages, encouragement to remain active (with analgesia where required) is preferable to bed rest. An early focus on return to work helps prevent immersion in the sick role, and the patient's work itself might be her most appropriate form of activity to undertake.

16. Answer C

There is no reason to suspect that Dolores shouldn't return to the same full time work with encouragement to change her posture to prevent soreness. Frequent rest breaks reinforce inactivity and nonparticipation, as does an enforced change to part time work. And very few occupations can be effectively conducted in the recumbent position.