

# MELONS OET BOOKLET 14

## WRITING SUBTEST

There are two case-notes. You can write and submit the one you have not written before. Remember, only members of Groups A, B and D can submit the letters.

Follow our 4 Steps: PPRRAADDDDDWK → DADS → PRPDD → DR

### CASE NOTES 1 - TOM CLARKE

WRITING SUB-TEST: Nursing

TIME ALLOWED:

READING TIME: 5 MINUTES

PPRRAADDWK TIME: 5 Minutes

WRITING TIME: 35 MINUTES

Read the case notes below and complete the writing task which follows.

NOTES:

You are Ramona Decosta, a senior nurse working with Helpline Hospital.

- Patient name: Tom Clarke
- DOB: 21/09/1954
- Address: 92 Lygon Street Carlton, Melbourne Phone: 0422-894-896

Social Background:

- Married, Wife- Miranda Clarke, aged 58 years. Live together
- Retired – Army officer
- Two daughters – elder daughter works in Sydney, younger daughter – Adelaide
- Quite active
- Hobbies: Cycling, watching movies, sports, reading, travelling, playing golf and Tennis

Surgical history:

- R Ankle dislocation surgery following a car accident- 1988,
- Hospitalized for 3 weeks
- Septoplasty – 1991
- Surgery for Anal Fistula – 1998
- Eye replacement lens surgery – 2013

Medical History:

- Hypertension – 1991 (Did not seek treatment till 2006; now managed with Ramipril)
- GERD – 2005

26/05/2022

- Accident with a motorbike while cycling, claimed he was going at a moderate speed, a motorbike hit him while overtaking, landed on the left side of his body
- FOOSH (Fall on outstretched hand) injury to L elbow, presented to ER, limited range of motion and extreme pain
- X-RAY– Nondisplaced fracture of the coronoid process of the ulna, marrow oedema head and neck of radius involving articular surface, moderate joint effusion

#### Treatment

- Sling to keep the elbow immobilized- 6 weeks,
- Capsule CM Plus, Panadol, Ibuprofen, hot compress for pain and inflammation
- Next Appointment in 6 weeks' time

11/07/2022

- X-ray – injury healing well
- Tab DGain qw
- Tab CM Plus – qd
- Sling taken off
- Exercise program – at home

06/08/2022 (today)

- Complains of stiffness and limited range of motion in the elbow
- Arrange home visits by physiotherapist for rehab program
- Tab DGain qw
- Tab CM plus qd
- Follow-up appointment – 20/09/2022

#### Writing task

Write a referral letter to Amit Kumar, Physiotherapist, Suite 5, 379 Swanston Street, Melbourne requesting home visits for the patient.

In your answer:

- Expand the relevant notes into complete sentences
- Do not use note form
- Use letter format

The body of the letter should be approximately 180–200 words.

## CASE NOTES 2 OCCUPATIONAL ENGLISH TEST

### WRITINGSUB-TEST: NURSING

Time allowed:

For Reading: 5 minutes

For Writing: 40 Minutes

Notes:

You are a Community Health Nurse providing regular home-visits for Mr Williams, a, 80-year-old man with history of dementia since 2016.

Patient name: Mr. Robin Williams

Age: 80 years

Medical History:

- Diabetes mellitus since 2008 on Metformin
- Both Hip replacement 2000
- The patient does review yearly 2 times with Neurologist
- Peptic ulcer 2020 February, treated successfully

Social history:

- Retired Police Officer
- Widower, lives alone after wife's death
- Daughter abroad
- Smoking since 2012 (smokes around 20 cigarettes in a day)
- Normal eating habits, preference: spicy foods
- BMI:26.2

16/05/2020

- Home visit
- Abdominal pain, vomiting and loss of appetite.
- Seen by GP, advice: Antacid and paracetamol 500 mg TDS

Subjective:

- Complained about vomiting mostly after eating
- Temp:38 (mild elevation)
- BP: normal
- Resp: normal
- Spo2: 99% on roomair

Objective:

- Abdominal distention, poor peristaltic movement.
- Diagnosis: Gastritis (?)

- Plan: The visit of Gastroenterologist
- He has fear of hospitalization

Writing Task:

Using the information in the case-notes, write a referral letter to Gastroenterologist, Community Centre, Sydney requesting a home-visit to evaluate his condition

In your answer:

- Expand the relevant notes in to complete sentences
- Do not use note form
- Use letter format

The body of the letter should be approximately 200 words.

**WARNING!**

**THE LISTENING, READING AND SPEAKING TASKS ARE FOR OUR LIVE SESSIONS. DO NOT TURN THE PAGES HEREAFTER.**

## LISTENING SUBTEST

### PART A

#### EXTRACT 1: QUESTIONS 1 - 12

You hear a physiotherapist talking to a patient called Euan Hughes. For questions 1 - 12, complete the notes with a word or short phrase.

You now have thirty seconds to look at the notes.

GP Referral

Patient:

- Euan Hughes (Mr)
- Age: 60 years
- Occupation: (1) \_\_\_\_\_
- Condition: (2) \_\_\_\_\_
- Complaints: Increased frequency of (3) \_\_\_\_\_ (4) \_\_\_\_\_ sputum
- Wheezing

Lifestyle:

- Has been (5) \_\_\_\_\_ since age
- (6) \_\_\_\_\_ due to
- (7) \_\_\_\_\_
- Intervention by (8) \_\_\_\_\_ was unsuccessful.

Further information:

Finds some tasks particularly difficult, like:

- Dealing with rush at work
- (9) \_\_\_\_\_
- (10) \_\_\_\_\_

Medication:

- Prescribed inhaler (as per referral letter)
- Maximum dosage: (11) \_\_\_\_\_
- To be taken as needed.

Next Steps:

- Offered procedure to insert (12) \_\_\_\_\_
- Suggested weight loss
- Will return in two weeks.

#### EXTRACT 2: QUESTIONS 13 - 24

You hear a Nurse talking to a patient called Shauna Burke. For questions 13 to 24, complete the notes with a word or short phrase.

You now have 30 seconds to look at the notes.

Patient: Shauana Burke (Miss)

- Age: (13) \_\_\_\_\_

- Occupation: Model / Modelling

Symptoms:

- (14) \_\_\_\_\_ on the lower eyelid
- Persistent (15) \_\_\_\_\_
- Extreme weight loss (recently)
- Lost (16) \_\_\_\_\_ kg within 1 month
- Eyes seem (17) \_\_\_\_\_

Background Details

- Returned from: (18) \_\_\_\_\_ in Paris on the (19) \_\_\_\_\_
- Has been finding it difficult to (20) \_\_\_\_\_ because she feels (21) \_\_\_\_\_.

Medical history:

- No family history of present condition.
- Non-smoker.
- Drinks socially.

Previous history of:

- (22) \_\_\_\_\_
- Since age (23) \_\_\_\_\_
- Sought counselling.
- No problems since episode.

Further actions:

- Establish a routine and
- Maintain (24) \_\_\_\_\_.

That is the end of PART A. Now, look at PART B:

## **PART B**

In this part of the test, you'll hear six different extracts. In each extract, you'll hear people talking in a different healthcare setting.

For questions 25 — 30, choose the answer (A, B, or C) that fits best with what you hear. You'll have time to read the question before you listen. Complete your answers as you listen.

Now look at question 25.

25. You hear two nurses talking about a plan for a citywide drive.

What is the female nurse in charge of doing?

- A. Contacting businesses about the drive
- B. Checking inventory on test needles
- C. Preparing a Powerpoint presentation

26. You hear a conversation between a pharmacist and her co-worker

What seems to be the topic of the conversation?

- A. Kate's absence from work
- B. An Elizabethan collar
- C. Another worker's absence from work

27. You attend a team briefing where overall performance is being highlighted

What is HR going to do about increased absence?

- A. Fire persons
- B. On Speak to those that are absent the most
- C. Change the way sick days are given

28. You hear a conversation between two nurses:

What does the female nurse have to do before midnight?

- A. Disconnect patient's saline drip
- B. Top up patient's insulin
- C. Disconnect patient's saline drip and conduct tests

29. You hear a morning briefing.

What seems to be the problem?

- A. Hospital too small
- B. Splitting the teams in halves
- C. Backup in discharge paperwork

30. You hear a conversation between two nurses.

What vaccination are they enquiring about?

- A. H1N1
- B. Influenza
- C. Tetanus

That is the end of Part B. Now look at Part C.

### **PART C**

In this part of the test, you'll hear two different extracts. In each extract, you'll hear health professionals talking about aspects of their work.

For questions 31 — 42, choose the answer (A, B, or C) that fits best with what you hear. You'll have time to read the question before you listen. Complete your answers as you listen.

Now look at extract one.

### EXTRACT 1: QUESTIONS 31 - 36

You hear a dietician called Catherine Weston, giving a presentation on Diabulemia.

You now have 90 seconds to read questions 31-36.

31. According to Ms Weston, how do the conditions rank in order of severity, starting with the least severe?

- A. Bulimia > Diabulimia > Diabetes
- B. Diabetes > Bulimia > Diabulimia
- C. Bulimia > Diabetes > Diabulimia

32. What point does Ms Weston make about the effect of Diabulimia on males and females?

- A. Diabulimia affects males and females equally
- B. Diabulimia affects females more than males
- C. Diabulimia affects males more than females

33. What reason does Ms Weston give as to the obscurity of the condition?

- A. It has not been defined in diabetic communities
- B. It has not been recognized in scientific communities
- C. It presents with several complications

34. According to Ms Weston, which organs are particularly susceptible to damage in Diabulimia sufferers?

- A. Eyes and Kidney
- B. Kidneys and Nerves
- C. Eyes and Nerves

35. What does the case study of Amira highlight?

- A. That diabulimia can go undetected for a long time
- B. That spreading awareness of diabulimia is necessary
- C. That diabulimia is a tragic condition

36. What is mentioned as the likely outcome of increasing national awareness of the condition?

- A. Increased engagement of different medical and scientific communities
- B. Increased funding from NHS England
- C. Increased number of treatment institutions

Now look at extract two.

### EXTRACT 2: QUESTIONS 37-42

You hear an interview with Doctor Janae Brown, a neurologist, about multiple sclerosis.

You now have 90 seconds to read questions 37-42.

37. According to the recent survey, how many people are diagnosed with multiple sclerosis?

- A. 100,000 a month
- B. 400,000 every six months
- C. 100,000 a year

38. Dr Brown gives the example of the effect on the optic nerve to highlight:

- A. That the nerve is particularly affected by the condition
- B. The widespread damage that can be caused by multiple sclerosis
- C. After they have reached their goal weight

39. Why are women at a higher risk than men of developing multiple sclerosis?

- A. They have longer life expectancies than men
- B. The chemicals their bodies produce make them more susceptible to the condition
- C. The gene that carries the condition is more prevalent in women

40. Why is aseptic technique important during the lumbar puncture?

- A. to prevent further infection
- B. to pinpoint the origin of the symptoms
- C. to provide clear images

41. What are the main aims of the treatment?

- A. Preventing recurrent attacks
- B. to pinpoint the origin of the symptoms
- C. to provide clear images

42. When are Beta-interferons used?

- A. If the symptoms become worse
- B. If the symptoms start to subside
- C. At the onset of the symptoms

That is the end of Part C.

You now have two minutes to check your answers.

END OF THE LISTENING TEST

## READING SUBTEST

### READING PART A

#### TEXT A

Necrotising fasciitis (NF)

NF is a rare but serious bacterial infection that affects the tissue beneath the skin, and surrounding muscles and organs (fascia). It is often called the "flesh-eating disease", although the bacteria that cause it don't "eat" flesh – they release toxins that damage nearby tissue.

NF is caused by bacteria that gain access to the body, often from only a relatively minor injury, such as a small cut. The conditions get worse very quickly and can be life threatening if it's not recognised and treated early on. Around a quarter of patients with NF will die of their infection, but this varies with the severity of the infection and the underlying health of the patient.

Quite a few different types of bacteria can cause the disease. However, when they cause infection elsewhere, many are only associated with mild disease. These include group A streptococci, a common cause of tonsillitis, and *Clostridium perfringens*, a cause of food poisoning. The infection can also be spread from person to person, but this is very rare.

About 400 cases of NF are diagnosed in Australian hospitals each year, which is similar to the incidence reported in other countries. Anyone can get necrotising fasciitis, including young and otherwise healthy people. It tends to affect older people and those in poor general health.

#### TEXT 2

Contracting necrotising fasciitis

For a person to develop necrotising fasciitis, several factors relating to themselves, the environment and the presence of certain bacteria all have to be present.

Patient factors that increase their risk if exposed to bacteria include:

- impaired immunity
- obesity
- acne or asthma sufferers
- chronic diseases such as diabetes, peripheral vascular disease

a breach of the skin such as:

- surgical wounds
- accidental wounds
- intravenous drug use

Environmental factors that increase risk include:

- coral cuts in marine environments
- contaminated surgical environment or equipment
- contamination of intra venous injected substances

Bacteria that can lead to issues include:

- Group A streptococci are commonly found in the throat and on the skin and is the most common bacteria to cause NF
- Vibrio bacteria are gram-negative bacteria that grow well in salty environments
- Aeromonas are Gram-negative, anaerobic bacteria that occur in aquatic environments
- Cleansing wounds, keeping wound covered and good hand hygiene are the main ways to prevent necrotising fasciitis

### TEXT 3

Symptoms of necrotising fasciitis

The symptoms of NF develop quickly over hours or days. They may not be obvious at first and can be similar to less serious conditions such as flu, gastroenteritis or cellulitis. It might take 3 or 4 days for symptoms to fully appear.

Skin becoming red, hot and blistered, together with the patient reporting intense pain in the infected area are the main early symptoms.

Patients with NF report pain that is out of proportion to the changes in skin condition. This is a key warning sign. The pain remains intense until the necrosis kills the nerve endings.

Other symptoms include:

- oedema, or swelling
- crackling under the skin
- confusion
- dehydration
- diarrhoea and vomiting
- skin swells and changes colour, turning violet
- areas of tissue turn black and start to die

After 4 or 5 days, septicaemia is likely to develop causing high temperature, dangerously low blood pressure, and they possible loss of consciousness. Without treatment, necrotizing fasciitis is always fatal.

### TEXT 4

Treatment and outlook NF needs to be treated in hospital, usually in the intensive care unit

The main treatments are:

- surgery to remove infected tissue which may be repeated several times to ensure all the infected tissue is removed, and occasionally, it may be necessary to amputate affected limbs
- antibiotics, usually several different types, administered intravenously
- supportive treatment of blood pressure, fluid levels and organ functions
- People usually need to stay in hospital for several weeks. NF can progress very quickly and lead to serious problems such as blood

poisoning (sepsis) and organ failure and even with treatment, it is estimated that 1 or 2 in every 5 cases are fatal. People who survive the infection are sometimes left with long-term disability as a result of amputation or the removal of a lot of infected tissue. They may need further surgery to improve the appearance of the affected area and may need ongoing rehabilitation support to help them adapt to their disability.

#### Questions 1-7

For each question, 1-7, decide which text (A, B, C or D) the information comes from. You may use any letter more than once.

In which text can you find information about:

1. What conditions can develop in a person with blood poisoning?
2. Ways to stop develop necrotising fasciitis?
3. The prognosis for people with necrotising fasciitis?
4. The preponderance of necrotising fasciitis diagnosed in Australian hospitals?
5. Underlying issues that can make person more susceptible to developing NF?
6. Operations that can be done to treat necrotising fasciitis?
7. The timeframe for symptoms of NF to be full blown?

#### Questions 8-14

Answer each of the questions, 8-14, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

8. What types of lesions may let bacteria invade the body?
9. What type of pain in the infected area do patients experience?
10. What type of infection is necrotising fasciitis?
11. Which bacteria is most likely to lead to NF?
12. Which part of a hospital are people with necrotising fasciitis usually treated?
13. What might a person cut themselves on in an ocean that could lead to them getting necrotising fasciitis?
14. For every 5 people with necrotising fasciitis, how many are likely to die, even with treatment?

#### Questions 15-20

Complete each of the sentences, 15-20, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

15. People with necrotising fasciitis say their pain is \_\_\_\_\_ to what can be seen in the area.
16. Symptoms of NF might be vague at first and more like common conditions such as \_\_\_\_\_ or cellulitis.
17. People who have conditions such as: \_\_\_\_\_ obesity and acne or asthma have a greater chance of developing NF if they are exposed to Group A streptococci bacteria.
18. Often multiple antibiotics are \_\_\_\_\_ to treat NF.

19. NF is more likely to be a problem for \_\_\_\_\_ and those in poor general health.
20. NF is commonly known as the \_\_\_\_\_.

END OF PART A.

## **PART B**

### **TEXT 1**

Know the Difference: Infiltration vs. Extravasation

Intravenous infiltration is one of the most common problems that can occur when fluid infuses into the tissues surrounding the venepuncture site. This sometimes happens when the tip of the catheter slips out of the vein or the catheter passes through the wall of the vein. If you are concerned an IV is infiltrated, standard procedures should be followed by, for example, discontinuing the site and relocating the IV.

An extravasation occurs when there is accidental infiltration of a vesicant or chemotherapeutic drug into the surrounding intravenous site. Vesicants can cause tissue destruction and / or blistering. Irritants can result in pain at the site and along the vein and may cause inflammation. The treatment for extravasation will vary depending on hospital policy.

- 1) What should you do if you think an IV is infiltrated?
  - A. You should terminate the procedure before trying again
  - B. You should change the catheter
  - C. You should irrigate the surrounding intravenous site

### **TEXT 2**

Arterial Line Placement

Arterial line placement is a common procedure in various critical care settings. Intra-arterial blood pressure measurement is more accurate than measurement by non-invasive means, especially in the critically ill. Intra-arterial blood pressure management permits the rapid recognition of changes that is vital for patients on continuous infusions of vasoactive drugs. Overall, arterial line placement is considered a safe procedure, with a rate of major complications that is below 1%.

In both adults and children, the most common site of cannulation is the radial artery, primarily because of the superficial nature of the vessel and the ease with which the site can be maintained. Additional advantages of radial artery cannulation include the consistency of the anatomy and the low rate of complications.

- 2) Why is the radial artery usually chosen for cannulation?
  - A. its low-profile anatomy is ideal for primary cannulation
  - B. the site can be maintained during other non-invasive manipulations
  - C. it has a shallow position

### **TEXT 3**

Clinically Important Symptoms of PTSD

People with clinically important symptoms of PTSD (Post-Traumatic Stress Disorder) refer to those who are assessed as having PTSD on a validated scale, as indicated by baseline scores above clinical threshold, but who do not necessarily have a diagnosis of PTSD. They are typically referred to in studies that have not used a clinical interview to arrive at a formal diagnosis of PTSD and instead have only used self-report measures of PTSD symptoms. Complex PTSD develops in a subset of people with PTSD. It can arise after exposure to an event or series of events of an extremely threatening or horrific nature, most commonly prolonged or repetitive events from which escape is difficult or impossible. The disorder is characterised by the core symptoms of PTSD; that is, all diagnostic requirements for PTSD are met.

3. According to this article, people with PTSD

- A. have a high score on a validated scale, which includes complex PTSD factors
- B. have experienced prolonged or repetitive symptoms
- C. have not been examined by qualified clinicians

#### TEXT 4

How to Assess a Peripheral Intravenous Cannula

Most patients need at least one peripheral intravenous cannula during their hospital stay for intravenous fluids and medications, blood products or nutrition. Complications are common but they can be prevented or minimised by routine assessment. Explanations to patients should be provided, along with education about the treatment. Ensure the patient knows why the treatment is being given, and encourage them to speak up if there are any problems, such as pain, leaking, swelling, etc. The cannula should not be painful. Pain is an early symptom of phlebitis (inflammation of the vein) and could indicate that the cannula is not working well and should be removed. Involving the patient and their family empowers them to voice their concerns, and prompts nurses to address problems and remove

4. According to this article, patients experiencing pain at the cannula site should

- A. tell someone
- B. ask for medication to stop leaking and/or swelling
- C. remove the cannula in order to avoid phlebitis (inflammation of the vein)

#### TEXT 5

Japan Approves New Cell Therapy Trial for Spinal Cord Injury

The Japanese government's health ministry has given the go-ahead for a trial of human induced stem cells to treat spinal cord injury. The treatment will be tested in a handful of patients who suffered nerve damage in sports or traffic accidents. Researchers at Osaka University plan to recruit adults who have sustained recent nerve damage in sports or traffic accidents. The team's intervention involves removing differentiated cells from patients and 'reprogramming' them into neural cells. Clinicians will then inject about two

million of these cells into each patient's site of injury. The approach has been successfully tested in a monkey, which recovered the ability to walk after paralysis. These tests follow researcher carried out at Kyoto University which used cells to treat Parkinson's disease.

5. How many people will be involved in the trial?
- A. around two million
  - B. as many patients as possible
  - C. less than ten

#### TEXT 6

##### Steroid Nasal Sprays and Drops

A steroid nasal spray usually works well to clear all the nasal symptoms such as itching or sneezing. It works by reducing inflammation in the nose. A steroid nasal spray also tends to ease eye symptoms although it is not clear how this occurs. However, they can take up to several days to build up to the full effect. Steroid nasal sprays should be used each day over the hay fever season to keep symptoms away. However, once symptoms have gone, the amount of steroid spray can often be reduced to a low maintenance dose each day to keep symptoms manageable. Side-effects or problems with steroid nasal sprays are rare.

6. How long can a nasal spray be used?
- A. While symptoms such as itching or sneezing occur and after
  - B. Before and during the time symptoms occur
  - C. Before, during the time symptoms occur and after

#### PART C

##### TEXT 1: TEMPORO-MANDIBULAR JOINT DISORDER

TMD is a set of heterogeneous musculoskeletal conditions involving the temporo-mandibular joint (TMJ) and/or the masticatory muscles. Up to 33% of the population has had at least one TMD symptom, with 5-10% requiring treatment. Common symptoms include limited jaw movement, joint clicking, popping or crackling, and facial pain. Once TMD becomes chronic, it can be debilitating, with comorbidities such as teeth grinding, depression, IBS and fatigue that greatly reduce an individual's quality of life. The multi-faceted nature of the disease means that the underlying mechanism of TMD often remains unclear.

Conservative treatments – warm compresses, behavioural therapy, oral appliances, and drugs such as anti-inflammatories – are commonly used to treat TMDs, and in many cases reduce pain to tolerable levels. So, it is only once these therapies have been exhausted that a physician should suggest to a chronic TMD sufferer the possibility of trying Botox injections into the masseter and temporalis (chewing) muscles. In addition to its well-publicized cosmetic uses, Botox has been approved by the FDA for painful conditions potentially (possibly) related to TMD, such as cervical dystonia and migraine, although as yet Botox is not FDA-approved for use in TMD. When doctors offer it, patients should be aware this is off-label use. The

FDA has not evaluated the safety or efficacy of this powerful toxin for TMD treatment.

Botox (or Botulinum toxin) is a toxin secreted by a bacterium called *Clostridium botulinum*, known to inhibit skeletal muscle. In one study, Botox injections were used to cure jaw hypertension (and its consequent teeth-grinding) in one of the four pairs of masticatory muscles known as the LP muscle. In a further study, Botox was used to counteract jaw sounds, with no recurrence in the year following injections. And in yet another study, injections of Botox for patients with cartilage displacement resulted in pain relief and the return of the normal movement of the mandible.

But before we ask whether Botox can reduce TMD pain, we need to question the safety of using it in this way. Injected into muscles, Botox causes partial paralysis, and this changes the forces that cause normal stress on the temporo-mandibular joint. These forces are necessary for maintaining the usual process of breakdown and regrowth of bone. If temporo-mandibular joint paralysis changes bone remodelling, injecting Botox into the chewing muscles might cause unique and unknown problems. To investigate this, Dr Susan Herring at the University of Washington in Seattle examined the effect of injecting Botox into the jaw muscles of rabbits. She observed that this resulted in an osteoporotic condition in the temporo-mandibular joint of rabbits, raising concerns that long-term Botox use might be unhealthy.

While Herring's findings caused consternation, it was unclear if results from a rabbit study had any useful connection to humans. With the cooperation of the TMJ Association, Dr Karen Raphael at New York University posted an online survey on the Association's website in order to identify the definitive answer, by comparing women who had received temporo-mandibular joint injections with a similar group of TMD patients who had not. Sixteen women underwent specialized radiological imaging, and abnormally low bone density was found in the temporo-mandibular joint of all those treated with Botox but in none of those who had not received Botox, indicating conclusively the need for more research into the safety of Botox for TMD pain.

In an evidence-based review, Ihde et al. evaluated the effect of Botox on chronic facial pain. They noticed adverse effects including muscle paralysis in a number of patients, but four weeks after treatment 91% of patients expressed improvement in facial pain. Emara et al. assessed the use of Botox for treating jaw clicking in six patients, and an electromyogram (EMG) was used to determine precisely where to inject. They concluded that Botox eliminated clicking in all but one case, and during the subsequent three to four months, recurrence was seen in only one other patient. Unlike Ihde et al., negative secondary effects were not reported. Later, von Lindren evaluated the effect of Botox injections on reducing maxillofacial muscle pain, again employing EMG while injecting into muscles that were difficult to access. Continued pain was reported in 80% of patients, dropping only to 50% three months after injection.

I wish to single out Dr Raphael's informative report about studies showing how Botox injections cause decreased bone density in the temporo-

mandibular joint. Patients and clinicians should understand there are other reasons to be cautious about such injections, including the risk of so-called disuse atrophy (wasting or loss of muscle tissue), resulting in disfiguration on the side of the head. Some patients may develop an immune response to Botox which blocks its action and renders injections ineffective. Finally, Botox is used to treat symptoms of myofascial pain but not the cause, which seems to me an illogical way to approach the situation.

Questions 7-14

7. What challenge is referred to in the first paragraph?
  - A. Pinpointing the root cause of a patient's TMD
  - B. misdiagnosing TMD for another medical condition
  - C. making provision for the large number of TMD sufferers
  - D. deciding which TMD patients need intervention and which don't
8. In the second paragraph, the writer argues that
  - A. Botox interventions are started too early.
  - B. Botox should be a last resort for chronic TMD pain.
  - C. Botox is best used in combination with non-invasive measures.
  - D. Botox may be unpopular with patients because of how it is administered.
9. The phrase off-label use in the second paragraph refers to the fact that
  - A. The FDA doesn't endorse the use of Botox in cosmetic procedures.
  - B. Botox is a non-standard approach to relieving pain in TMD patients.
  - C. The FDA is concerned that Botox aggravates certain long-term conditions.
  - D. Higher doses of Botox are used for TMD than for cervical dystonia and migraines.
10. In the third paragraph, what is suggested about studies involving Botox?
  - A. Their follow-up periods were too short to be reliable.
  - B. The claims of long-term cures were greatly exaggerated.
  - C. There were positive outcomes in treating several conditions.
  - D. They aimed to reduce pain by improving mobility of the joint.
11. What point is made about the jaw in the fourth paragraph?
  - A. Humans suffer from jaw osteoporosis just like other animals.
  - B. A degree of pressure on the temporo-mandibular joint is normal.
  - C. Damage to masticatory muscles has devastating consequences.
  - D. Many temporo-mandibular disorders inhibit the process of bone regrowth.
12. In the fifth paragraph, the phrase 'the definitive answer' refers to
  - A. Whether Dr Herring's findings were of relevance to medicine/physicians.
  - B. Why non-recipients of Botox also displayed low bone density in the jaw.
  - C. What further research the radiologists urgently needed to carry out.
  - D. How to select the most reliable trial group for Dr Raphael's study.

13. What did the investigations referred to in the sixth paragraph have in common?

- A. A more carefully targeted injection site
- B. The observation of certain side effects
- C. A reduction in the dosage of Botox
- D. Variable rates of success

14. In the final paragraph, the writer expresses the view that

- A. It is likely that Botox could adversely affect the immune system.
- B. Dr Rafael's report deserved further consideration and discussion.
- C. Facial disfigurement is a rare side effect of having a TMJ disorder.
- D. TMD sufferers would be unwise to ignore reservations about Botox.

## TEXT 2: FASTING

The practice of fasting - abstaining from food and non-water beverages - has been known for years to be an effective non-pharmacological strategy for counteracting some of the most entrenched modern ailments, from cardiovascular disease and cancer to diabetes and diminishing cognition. However, because the evidence for this came mainly from studies in rats and mice, rather than in humans, intermittent fasting remained an interesting, but somewhat fringe, field of research and was largely ignored by the medical community. That has changed, however, with the publication of some small but promising investigations showing positive outcomes in human patients.

When patients enter a fasting state, they deplete the stores of glucose in their livers and convert to using fat-derived ketone bodies. Depending on their physical output during the fasting period, they may enter a ketogenic state within hours. Advocates of fasting as a dietary intervention will probably have little difficulty explaining why there might be benefits to substituting ketones for glucose, and the many negative health effects caused when glucose is poorly regulated. However, they may find it more difficult to overcome the common belief that fasting slows down metabolic rates - so when a patient's body is compensating for lack of food in this manner, doesn't this simply offset or limit any advantages to be gained? In fact, this long-standing assumption began to change toward the end of the 20th century, when research emerged indicating that fasting for durations of a few days actually has the opposite effect, and increases metabolic rates.

The full spectrum of physiological mechanisms contributing to this increase in metabolic rates during early food restriction is complex, involving factors such as circadian rhythm and increased levels of the fat-burning hormone norepinephrine. However, the benefits of fasting are borne out by clinical studies of metabolic outcomes, 16 of which were highlighted in a recent review. Although primarily consisting of cohorts of less than 50 patients, they nonetheless show different fasting regimens produced notable decreases in glucoregulatory markers, lipids, inflammatory markers, and weight.

Another, possibly more surprising, benefit of fasting is its ability to enhance cognition and brain function. Research has provided abundant animal data

showing that fasting-related ketogenic states lead to cellular and molecular adaptations in the brain that confer such benefits as resistance to stress, injury, and disease. Here, too, there is a compelling evolutionary explanation. Ketones are an exceptional energy source for the brain, more so than the unreliable fluctuations of glucose. It seems probable that mammals who excelled at surviving long periods of food deprivation were likely to develop optimal brain function in that state.

Fasting can also play a role in the management of breast cancer. Clinical research suggests that its positive impact may depend not just on whether people abstain from eating, but also when. In a 2015 epidemiologic analysis of women participating in the 2009-2010 US National Health and Nutrition Examination Survey, researchers were able to show, for the first time, that longer night-time fasting duration was significantly associated with improved glycaemic regulation, and thereby reduced risk for breast cancer. In a study the following year, researchers looked at over 2400 patients who were in remission from early-stage breast cancer. In those who self-reported nightly fasting of less than 13 hours, there was a statistically significant 36% increase of the risk for breast cancer recurrence compared with those whose nightly fasting lasted more than 13 hours.

The popularity of fasting diets is also increasing amongst the general public. This may be because of the prevailing consensus that there is something fundamentally wrong with the modern diet. Although human bodies retain the ability to get by quite capably for long periods in a ketogenic state, most people live in societies where the predominant eating schedule – three meals a day with some snacking on top – means that their bodies rarely have to do so. As humans evolved over millennia to function in one way (hunter-gatherer systems defined by periodic food scarcity) but have been wrenched into another system in a relatively short period, it takes only a small mental leap to see how this may play a role in the contemporary crisis of food-related illnesses, including the 'obesity epidemic'.

All the researchers interviewed for this article agree that the data supporting intermittent fasting as a clinical intervention are currently limited to a few indications, and are derived from relatively small studies. It is difficult to know the true benefits of this treatment, much less the adverse events that could accompany its application. They caution against the adoption of fasting in such populations as frail and elderly persons, hypoglycaemic patients, and children and adolescents. There is nonetheless a justifiable excitement that a simple, nonpharmacologic intervention could have a notable impact for patients with life-threatening conditions.

Text 2: Questions 15-22

15. In the first paragraph, what point does the writer make about fasting?

- A. It is a preferable form of treatment to using drugs.
- B. The reasons why it is beneficial are well documented.
- C. Claims made about it are now beginning to be verified.
- D. There is little justification for overlooking its importance.

16. In the second paragraph, what does the writer say is often misunderstood?
- A. How the duration of fasting influences outcomes
  - B. How fasting can help control glucose levels
  - C. How ketones are produced during fasting
  - D. How metabolism is affected by fasting
17. In the third paragraph, the word 'they' refers to
- A. Cohorts
  - B. Patients
  - C. Clinical studies
  - D. Metabolic outcomes
18. What does the writer suggest about the evolution of animals in the fourth paragraph?
- A. Certain mental attributes improved the chance of withstanding illness.
  - B. Those with reduced access to nourishment became more intelligent.
  - C. Those with faculties dulled by starvation would be more likely to die.
  - D. Species with less stamina would tend to have slower reactions.
19. The two breast cancer studies mentioned investigated the impact of
- A. Fasting for prolonged periods every night.
  - B. Fasting at different times of the day and night.
  - C. Night-time fasting after early-stage breast cancer.
  - D. Night-time fasting during treatment for breast cancer.
20. According to the writer, fasting diets are popular because people
- A. Prefer not to have regular meals.
  - B. Suspect that the way they eat is unnatural.
  - C. No longer trust the quality of the food they eat.
  - D. Are convinced that this is the best way to lose weight.
21. In the sixth paragraph, the phrase 'it takes only a small mental leap' is used
- A. To illustrate a point that the writer has made.
  - B. To justify the writer's reluctance to take sides in a debate.
  - C. To demonstrate the writer's agreement with a point of view.
  - D. To explain why the writer believes an argument is misleading.
22. In the final paragraph, the writer is:
- A. Challenging some accepted opinions about fasting.
  - B. Warning that fasting may have negative consequences.
  - C. Stressing the need for some further research into fasting.
  - D. Admitting that the advantages of fasting may be overrated.

## SPEAKING SUBTEST

### ROLE-PLAY Card

Interlocutor card - Patient

Setting - Medical Assessment Unit

Patient: You are a 40-year-old patient suffering from breast cancer. You have not performed any mammogram for 4 years. Mother and Aunty suffered and died from breast cancer. You are afraid of dying and leaving 3 kids all aged below 15. You noticed some breast changes 4 months ago but did not think about it. You would like to discuss treatment options.

Task:

- Answer the nurse's questions in regards to your illness.
- Ask questions in regards to treatment alternatives.

Candidate Card- Nurse:

Setting - Medical Assessment Unit

Nurse: You are talking to a 40-year-old patient, who has been diagnosed with breast cancer.

Task:

- Approach the patient and comfort them.
- Respond to the patient's questions about their concerns.
- Give advice in a positive and friendly manner.

NB: Additional Role Play Cards will be provided during the Week.