

### Mock Geriatrics SCE paper 2019 – Questions

1. The British Association of Parenteral and Enteral Nutrition (BAPEN) describes their recommended process of individualised nutritional assessment. Which of the following tools is recommended for nutritional assessment?
  - a. Malnutrition Universal Screening Tool (MUST)
  - b. Mini-Nutritional Assessment Short Form (MNA-SF)
  - c. Short Nutritional Assessment Questionnaire (SNAQ)
  - d. Malnutrition Screening Tool (MST)
  - e. Subjective Global Assessment (SGA)
  
2. A 76 year-old man presents to A&E with a 25 minute episode of right arm weakness. He has a blood pressure of 140/95mmHg. He has a history of ischaemic heart disease but is otherwise fit and well. What is his risk of stroke in the next 7 days?
  - a. 2%
  - b. 4%
  - c. 5%
  - d. 8%
  - e. 10%
  
3. An 80 year-old woman presents with dizziness. She describes episodes of feeling lightheaded when mobilising. She has fallen once with no significant injury. Her past medical history includes hypertension and she is on ramipril 1.25mg OD only. Examination including lying/standing blood pressure is normal. An ECG reveals atrial fibrillation at a rate of 40bpm. What is the most likely diagnosis?
  - a. Over beta blocked
  - b. Postural hypotension
  - c. Sick sinus syndrome
  - d. Complete heart block
  - e. Cushing's response
  
4. Which of the following is **NOT** a frailty syndrome:
  - a. Falls
  - b. Immobility
  - c. Weight loss
  - d. Delirium
  - e. Susceptibility to side effects of medications
  
5. Centenarians are often cited as examples of 'extreme healthy ageing' and are therefore often used in research as a model of healthy ageing. Which of the following have **NOT** been found in centenarian populations?
  - a. Under-representation of IL-6-174 genotype which is associated with higher plasma levels of IL-6.
  - b. Adoption of a calorie restricted diet
  - c. Family as an important component of their lifestyle
  - d. High diversity in gut microbiota
  - e. Constant moderate physical activity

6. A patient's daughter is concerned about food poisoning in her mother and wants to reduce any future risks, which of the following would you recommend?

- a. Reheat food at a high temperature ensuring the inside is steaming hot
- b. Refrigerate food below 8°C
- c. Wash raw meat prior to cooking
- d. Cool left overs for 3 hours prior to freezing
- e. Drink a glass of whiskey with each meal

7. In which of the following clinical situations does NICE recommend <sup>123</sup>I-FP-CIT single photon emission computed tomography (SPECT)/ Dopamine Transporter (DaT) scanning where there is clinical uncertainty?

- a. Differentiation of drug-induced parkinsonism and Parkinson's Disease
- b. Differentiation of Charles-Bonnet syndrome and Lewy Body Dementia
- c. Differentiation of essential tremor and Parkinson's Disease
- d. A patient with clinical evidence of Parkinson's Disease who has a previous history of gambling who is not keen to commence medication without further investigations
- e. Differentiation of Parkinson's Disease and vascular parkinsonism

8. Which of the following is most likely to be beneficial in the prevention of deep vein thrombosis following ischaemic stroke?

- a. Aspirin 300mg daily
- b. Intermittent pneumatic compression of the lower legs
- c. Inferior vena cava filter
- d. Subcutaneous low molecular weight heparin
- e. Thigh length compression hosiery

9. Risperidone is licenced for acute and chronic psychosis in older adults, with a recommended starting dose of 500micrograms BD. Which of the following is a recognised side-effect of risperidone?

- a. Embolism and thrombosis
- b. Atrial fibrillation
- c. Discoloured nails
- d. Cataracts
- e. Increased risk of breast cancer

10. A 75 year-old lady with dementia is ready for discharge following an admission for pneumonia from which she has fully recovered. She wants to go back home but her son feels that it would be better for her to go to a nursing home. The ward team feel that the patient lacks capacity to make this decision for herself. Nursing staff report that she needs intermittent help with washing and dressing but that she is happy staying in bed for most of the day. She previously lived independently in her own home and has not been wandering while on the ward. Physiotherapy staff feel she is close to her pre-admission mobility. What is the most appropriate discharge destination for this patient?

- a. Discharge back home with a package of care
- b. Discharge to a residential home
- c. Discharge to a nursing home
- d. Keep on the ward for further observation
- e. Discharge the patient to intermediate care to decide

11. An appropriate nutritional regime for a 70kg 70 year-old male who is not severely ill or injured, nor at risk of refeeding syndrome is:

- a. 1500kcal, 60g protein, 1.5L of fluid
- b. 2100 kcal, 70g protein, 2L of fluid,
- c. 2000kcal, 50g protein, 1.8L of fluid
- d. 2400kcal, 60g protein, 1.5L of fluid
- e. 2400kcal, 50g protein, 2.2L of fluid

12. Sarcopenia is age-related loss of muscle mass associated with either poor physical performance or low muscle strength. Another component of sarcopenia has recently been described – poor muscle quality. Which of the following has **NOT** been reported to contribute to poor muscle quality?

- a. Intramuscular adipose tissue
- b. Conversion of type 2 muscle fibres to type 1 muscle fibres
- c. Degeneration of neuromuscular junction
- d. Raised IL-10
- e. Decrease in angle of pennation (angle of insertion of muscle fibres into tendon aponeurosis)

13. A 72 year-old woman presents with recurrent syncopal episodes. An R test and echocardiogram are both normal. You decide to refer for a tilt table test. Which of the following options is **NOT** a relative or absolute contraindication for tilt table testing?

- a. Recent stroke (within 7 days)
- b. Permanent Pacemaker in-situ
- c. Severe anaemia
- d. Tachyarrhythmia
- e. Critical aortic stenosis

14. Which of the following is a potential protective factor against Parkinson's disease?

- a. The PD-1 mutation in bands 4q21-23 on chromosome 1.
- b. Smoking
- c. Exposure to the weed killer paraquat
- d. Previous melanoma
- e. Type 2 Diabetes Mellitus

15. A 70 year-old female patient has her left leg amputated, what is her new centre of gravity?

- a. Up and left
- b. Up and right
- c. Neutral
- d. Down and left
- e. Down and right

16. Your junior asks you to review this X-ray following nasogastric tube insertion. What do you advise them to do?

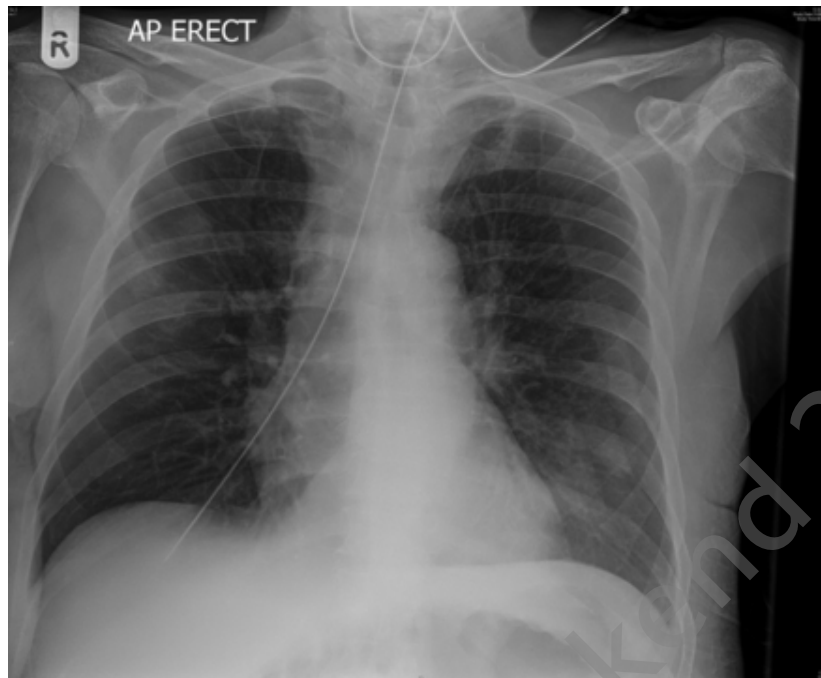


Image reused with permission from BMJ Case reports: <http://dx.doi.org/10.1136/bcr-2015-214075>

- Remove the nasogastric tube
- Aspirate from the tube and check the pH
- Feed through the nasogastric tube as planned
- Withdraw the tube 2 cm and repeat the X-ray
- Blow into the tube and listen over the stomach for a “whoosh” sound

17. An 87 year-old lady has had eight falls at home over the last six months. Her family are concerned regarding the number of falls and feel it is starting to impact on her day to day activities. She currently lives alone, however, no longer feels confident on leaving the house alone due to fear of falling. Her daughter reports that she now furniture walks in the house and uses a frame whilst outside. The patient denies any pre-syncopal symptoms, loss of consciousness or palpitations. Which of the following is recommend by NICE for older people at risk of falls?

- Hip protectors
- Strength and balance training
- Referral for correction of visual impairment
- Vitamin D supplementation
- Cognitive/behavioural intervention

18. Sarcopenia is a major age-related physiological change in older people. Reduced physical activity is not the only causal factor. Which of the following is **LEAST** likely to contribute to the physiological anorexia of ageing?

- Decreased cytokine activity
- Delayed gastric emptying
- Reduced sense of smell and taste
- Increased secretion of cholecystinin
- High circulating leptin levels

19. A 74 year-old man is diagnosed with pancreatic carcinoma, and comes to the oncology clinic for review. He is relatively well, able to carry out all of his usual daily activities apart from heavy lifting and digging over his vegetable patch. His BP is 122/70, pulse is 80 and regular. His BMI is 24. Bloods reveal a mild anaemia with Hb 115g/l (135-180). He would like to take part in a clinical trial, but this is dependent upon his WHO performance status. Which of the following represents his WHO performance status?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 4

20. A 68 year-old woman presented with sudden onset incoordination of her right arm and leg associated with nausea and a "spinning sensation". On examination, she had impaired coordination on the right side, and a right sided partial ptosis. There was loss of sensation to pain and temperature on the right side of her face, but of her left sided limbs. Which of the following is the most likely diagnosis?

- a. Left sided lateral medullary syndrome
- b. Right sided lateral medullary syndrome
- c. Left sided Weber syndrome
- d. Right sided Weber syndrome
- e. Functional disorder

21. An 85 year-old man with a known history of Lewy Body dementia is referred by his GP for consideration of commencing treatment. He has a score of 22 on the MMSE. Which of the following would be the most appropriate treatment option?

- a. Risperidone
- b. Rivastigmine
- c. Galantamine
- d. Memantine
- e. No treatment

22. There has been very minimal research into immunesenescence (deterioration of the immune system) in frailty. However, which of the following represents a consistent finding that has been demonstrated in frail older adults?

- a. Raised white cell count and neutrophils unrelated to periods of ill-health or infection
- b. Shortening of telomeres.
- c. Collapse of B cell repertoire diversity.
- d. Chronic Cytomegalovirus (CMV) infection
- e. Increased expression of pro-inflammatory monocyte phenotypes.

23. An 84 year-old lady is admitted to hospital following a collapse at home with transient loss of consciousness. On examination she appears well. Her pulse is measured at 40 beats per minute with a blood pressure of 110/65 mmHg. Her electrocardiogram on admission shows a 2:1 block with old ischaemic changes. What is the most appropriate next step in her management?

- a. Administer IV atropine
- b. Admit and arrange a monitored telemetry bed
- c. Arrange a temporary pacing wire
- d. Carotid Sinus massage
- e. Discharge with outpatient 24hrs tape

24. A 73 year-old lady is referred to memory clinic with suspected Alzheimer's dementia. In which area would you be most likely to see atrophy on imaging?

- a. Frontal
- b. Medial Temporal
- c. Lateral Temporal
- d. Parietal
- e. Occipital

25. Which of the following correctly contains both:

- 1) the correct term to describe an organism that does not exhibit evidence of biological ageing
- 2) an example of an organism that does not exhibit evidence of biological ageing

- a. Negligible senescence; Blue whale
- b. Replicative lifespan; Mountain gorilla
- c. Replicative lifespan; Roughey rockfish
- d. Negligible senescence; Red sea urchin
- e. Hayflick phenomenon; Greenland shark

26. A 75 year-old female patient is admitted to the old age psychiatry unit with severe refractory depression. She is refusing to eat and drink and a decision is made to proceed with electroconvulsive therapy. She declares that she does not think she has a problem and wants to go home and to be left alone. The psychiatrist treating her has already arranged a second opinion from another psychiatrist. Under which section of the Mental Health Act should she be detained?

- a. Section 2
- b. Section 3
- c. Section 4
- d. Section 5(2)
- e. Section 5(4)

27. Which of the following is the most appropriate initial treatment for a 92 year-old male with palliative lung cancer with opiate-induced constipation and hard stool in the rectum on per rectal examination?

- a. Lactulose
- b. Movicol
- c. Docusate and senna
- d. Increase fluid intake
- e. Ispaghula husk

28. Which of these factors is associated with increased risk of adverse outcomes in a patient with pneumonia?

- a. Cognitive impairment
- b. Younger age
- c. Fever > 38.3°C
- d. WCC > 18g/L
- e. Staphylococcus Aureus growth in sputum

29. Which of these findings is most likely to be indicative of clinically significant infection in a catheterised patient?

- a. Urine dipstick positive for nitrates and leucocytes
- b. Cloudy urine
- c. Dysuria and frequency
- d. New costovertebral tenderness
- e. Loss of balance

30. What percentage of older adults will experience relapse/ recurrence of depression within 12 months without antidepressants?

- a. 10%
- b. 30%
- c. 60%
- d. 70%
- e. 90%

31. Which of the following is **NOT** a known feature of frontotemporal dementia?

- a. Progressive loss of language fluency or comprehension
- b. Age at onset peak in mid-50s
- c. Altered eating habits
- d. Association with thyroid disease
- e. Mutations in LRRK2 gene

32. Mr Davies, aged 83 years-old, returns to your clinic following investigations, unfortunately he has recently been diagnosed with non-small cell lung carcinoma. An adenocarcinoma was confirmed by CT-guided biopsy (T3 N0 M0); the lesion is peripheral in the right lung. He lives with his wife and is able to complete his own basic activities of daily living but finds that he fatigues easily and needs to rest about half the time during the day. His past medical history includes left ventricular systolic dysfunction (EF 35%), COPD (FEV1 1.1 L/min), and ischaemic heart disease. He expresses that he would be accepting of any treatment that is offered to him and his priority is to keep living whilst his wife is also alive. You explain that his case will be discussed in a multidisciplinary team meeting. The most appropriate management is likely to include which of the following?

- a. Lobectomy
- b. Wedge resection
- c. Palliative care alone
- d. Stereotactic Ablative Body Radiotherapy
- e. FOLFOX chemotherapy

33. You have an 80 year-old lady who is being treated for urge incontinence. She has failed treatment with Oxybutynin due to side-effects of dry mouth. What is the next line treatment for her?

- a. Tolterodine
- b. Mirabegron
- c. Furosemide
- d. No alternative
- e. Absorbent products

34. Mrs Richards, who is 80 years-old, is referred to your outpatient clinic with non-specific symptoms of fatigue and constipation. She arrives at the appointment by hospital transport and is brought into the clinic room in a wheelchair. She is able to get up and walk to the examination couch with assistance and use of a zimmer frame, but it takes her 30 seconds to do this. On examination, she has low muscle mass, and osteoarthritis changes in her hands. She looks slightly pale. There are no palpable masses. Her current medications include Amlodipine 5mg, Simvastatin 40mg, Ferrous sulphate 200mg OD, Co-codamol PRN, Peptac PRN. Her GP has recently repeated her blood tests which show Hb 85, MCV 76, B12 212, Folate 3, Ferritin 40, CRP 80, WCC 14, Calcium 2.1. Which of these would you arrange first?

- a. Increase ferrous sulphate to 200mg TDS
- b. Admission to day unit for intravenous iron infusion
- c. Refer to community physiotherapist
- d. Transvaginal ultrasound
- e. Stop all medications and refer to dietician

35. Which of these is **NOT** a contraindication to midodrine?

- a. Abdominal aortic aneurysm under surveillance
- b. Left ventricular systolic dysfunction
- c. A recent episode of narrow angle glaucoma
- d. Benign prostatic hypertrophy
- e. Concurrent treatment with apomorphine

36. The five scenarios below are all examples of common non-motor problems in Parkinson's disease. In each case assume that all non-pharmacological management has been tried without success and a pharmacological management is deemed necessary. Four of the scenarios suggest the correct pharmacological management (according to NICE guidance). Identify the scenario which does **NOT** include the correct pharmacological management.

- a. Rapid eye movement sleep behaviour disorder and melatonin
- b. Hallucinations with no cognitive impairment and quetiapine
- c. Delusions with cognitive impairment and olanzapine
- d. Dementia and rivastigmine
- e. Excessive drooling and glycopyrronium bromide



37. A 74 year-old woman is admitted to the Acute Medical Unit with confusion. As part of her initial assessment the admitting doctor completes the 4AT screening tool. She scores 1 for loss of points on the AMT4. What does this mean?

- a. She has possible delirium
- b. She has possible delirium +/- cognitive impairment
- c. She has possible cognitive impairment
- d. Both delirium and cognitive impairment are unlikely in this patient
- e. It is impossible to say without further information

38. A 67 year-old male patient is admitted with right sided weakness and diagnosed with a lacunar stroke. On Day 4 he becomes acutely short of breath and hypoxic, although his blood pressure is maintained. A CTPA confirms bilateral central pulmonary emboli. Which of the following is the most appropriate course of action?

- a. Continue aspirin 300mg alone, use pneumatic compression stockings
- b. Continue aspirin 300mg, give treatment dose enoxaparin
- c. Stop aspirin, start treatment dose enoxaparin
- d. Reduce aspirin to 75mg, give treatment dose enoxaparin
- e. Refer for Inferior Vena Cava filter

39. A 94 year-old lady was admitted with a fractured neck of femur after falling in the snow. She was treated for pneumonia as well as having surgical fixation of her fracture with a Dynamic Hip Screw. Prior to the fall, she was independent, able to walk slowly for just under a mile, on no medications and required only help with heavy lifting. She was reviewed 4 days post operatively and was now unable to walk unaided due to weakness. Her pain was controlled and she was not delirious. On examination her chest had improved and other examination was normal, except some muscle wasting in the quadriceps. She was now requiring assistance to stand from a chair. Her bloods showed Hb 97, MCV 85, WCC 8.9, CRP 20, Na 134, K 3.2, Alb 28, eGFR 61. ECG showed normal sinus rhythm; BP 120/50. What is the most likely underlying reason for this patient's weakness?

- a. Acute myositis
- b. Hypokalaemia
- c. Anaemia
- d. (Acute) sarcopenia
- e. Kwashiorkor

40. Sunlight is most likely to exacerbate visual problems in which of the following?

- a. Open angle glaucoma
- b. Cataracts
- c. Strabismus
- d. Myopia
- e. Amblyopia

41. Which of the following best describes the mechanism of action of bisphosphonates?

- a. Suppress bone resorption by inhibiting the action of osteoclasts
- b. Bind to hydroxyapatite crystals in skeletal bone and stimulate activity of osteoblasts
- c. Increase new bone formation by increasing the number of osteoblasts
- d. Increase gastrointestinal absorption of vitamin D and calcium
- e. Increase bone turnover by stimulating osteoblastic and inhibiting osteoclastic activity

42. A 76 year-old lady is admitted to hospital with a fractured neck of femur following a fall from standing height in the garden. She has a past medical history of achalasia and hypertension. Her renal function is normal. She undergoes a successful hemiarthroplasty. You review her post operatively as part of the orthogeriatrics team. She has had a recent bone mineral density scan which confirms osteoporosis. You would like to start secondary prevention for further fractures; which agent would be most appropriate, in line with NICE guidance?

- a. Denosumab
- b. Alendronic acid
- c. Raloxifene
- d. Teriparatide
- e. Zoledronic acid

43. How should the correct height for a walking stick be measured?

- a. Arms flexed to 45 degrees, measure height from wrist crease to floor
- b. Arms straight at sides, measure height from wrist crease to floor
- c. Arms flexed to 15 degrees, measure height from wrist crease to floor
- d. Half of patient's standing height
- e. Height of anterior superior iliac spine

44. Which of the following is **NOT** part of the Barthel Index?

- a. Feeding
- b. Urinary continence
- c. Dressing
- d. Walking speed
- e. Bowel continence

45. Which of the following is **NOT** a part of the Timed Up and Go Test?

- a. Turning
- b. Using usual mobility aid
- c. Rise from a standard armchair
- d. Walk 3 metres in total
- e. Sit down at the end of the test

46. Which of the following is **NOT** a 'Blue Book' standard for hip fracture care?

- a. All patients with hip fracture should be admitted to an acute orthopaedic ward within 4 hours of presentation
- b. All patients with hip fracture who are medically fit should have surgery within 48 hours of admission, and during normal working hours
- c. All patients presenting with a fragility fracture should be managed on an orthopaedic ward with routine access to acute orthogeriatric medical support from the time of admission
- d. All patients presenting with fragility fracture should be assessed to determine their need for antiresorptive therapy to prevent future osteoporotic fractures
- e. All patients presenting with hip fracture should be seen by an orthogeriatrician within 36 hours of admission

47. Which of the following is **NOT** a type of walking stick handle?

- a. Fischer
- b. C curve
- c. T shaped
- d. Swan neck
- e. Crook

48. A 67 year-old woman comes to see you in clinic. She wonders if she should be on a bone protection medication, as she has a friend who recently broke her hip. She has a past medical history of hypertension, hypercholesterolaemia and eczema. She does not have a history of falls and has never fractured a bone. Her current medications are ramipril 5mg OD and simvastatin 20mg ON. Which one of the following options would **NOT** be an appropriate initial action?

- a. Calculate her FRAX or QFracture score
- b. Assess for vitamin D deficiency
- c. Arrange a Bone Mineral Density scan
- d. Advise regular weight bearing exercise
- e. Advise that alcohol intake should be kept to <14 units per week

49. What type of walking frame is this?



[This Photo](#) by Unknown Author is licensed under [CC BY-NC-ND](#)

- a. Zimmer
- b. Wheeled pulpit
- c. Rollator
- d. Gutter
- e. Delta

50. You are called to review an unconscious patient, who is a Jehovah's witness in the emergency department resuscitation area, who has presented with an Upper GI bleed. He has a Hb of 40, His BP is 80/40, HR 140. His son states that the patient has a written Advance Decision of Refusal of Treatment, which states that he does not wish to receive any blood products under any situation. However, he does not have the document available at present. You ask him to retrieve this document as a matter of urgency. Which of the following would be the most appropriate initial management in the mean time?

- a. IV fluids
- b. IV iron
- c. Transfuse blood
- d. Nothing
- e. Take to endoscopy immediately