

Mock Specialty Certificate Exam

Time: 45 minutes Format: Best of Five

1. A 68 year old woman was admitted with back pain which came on following a fall. She had a history of asthma and was taking Beclomethasone and Salbutamol inhalers. She subsequently had a DEXA scan organised and her results were used to calculate her fracture risk using the FRAX tool. She was diagnosed as being osteoporotic.

Which of the following best describes osteoporosis as defined by the World Health Organisation?

- A a condition where the 10 year fragility fracture risk is > 20%
- B a condition which leads to a fracture following a fall from a standing height
- C a condition which presents with fractures
- D bone mineral density that is 2.5 standard deviation below the age specific mean
- E bone mineral density that is 2.5 standard deviation below the mean of young adults

2. A 74 year old man sustained a Colles fracture after stumbling against a table. He had polymyalgia rheumatica and ischaemic heart disease. He was taking Aspirin, Lansoprazole and Prednisolone, which had been on repeat prescription for over 8 years.

It was decided to commence him on a bisphosphonate.

Which of the following best describes bisphosphonates?

- A can be given by the subcutaneous route
- B can cause decreased bone formation
- C can cause increased bone resorption
- D lead to uncoupling of bone resorption from formation
- E must only be given for 5 years

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3. A 72 year old man was admitted with recurrent collapses which came on without warning. He had a history of COPD and diabetes and was taking Gliclazide, Metformin and a Seretide inhaler.

On examination his blood pressure was 140/80 mmHg supine and 120/70mm Hg erect, without symptoms of orthostatic hypotension.

Investigations:

12 lead ECG:

Sinus rhythm; 1st degree heart block; occasional ventricular ectopic beats

He was referred for a head-up tilt table test.

Which of the following best describes a head-up tilt table test?

- A can be associated with false positives in the diagnosis of vasovagal syndrome
- B can employ the use of fludrocortisone as a provocative measure to increase the sensitivity of the test
- C is contraindicated in the presence of mitral regurgitation
- D is the investigation of choice in diagnosing carotid sinus syndrome
- E is useful in investigating vertigo

4. Which of the following is true with regards to falls?

- A. calcium supplements with or without vitamin D can reduce falls risk
- B. exercises that focuses on muscle strengthening and balance improvement have been shown to reduce falls in older people
- C. more than 40% of falls in older people lead to a fracture
- D. SSRIs are associated with an increased risk of falls
- E. whole body vibration treatment can reduce falls in older people

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5. 75 year old woman was admitted to hospital following a fall. She had experienced three falls in the preceding 6 months, each requiring admission to hospital.

On examination she was found to have multiple bruises and a receding hairline. She was argumentative and intermittently drowsy. Her blood pressure was 110/80 supine and 90/40mmHg standing, without improvement at 3 minutes. She had mild bilateral high frequency tremor present at rest and on action and no other demonstrable neurological signs. An abbreviated mental test score was 6/10.

Investigations:

Haemoglobin	125 g/L (115–165)
MCV	105 fL (80–96)
Platelet count	250× 10 ⁹ /L (150–400)
Serum sodium	129mmol/L (137–144)
Serum potassium	5.3mmol/L (3.5–4.9)
Serum urea	10.8mmol/L (2.5–7.0)
Serum creatinine	184µmol/L (60–110)
Serum corrected calcium	2.04mmol/L (2.20–2.60)
Serum PTH	75 pmol/L (0.9–5.4)
Serum TSH	4.3 U/L (<7)
Free T4	14 pmol/L (10.0–22.0)
International normalised ratio	1.8(<1.4)
Mid-stream Urine	NAD

What investigation is most likely to reveal the underlying diagnosis?

- A. CT scan of head
- B. Ioflupane SPECT (DAT) scan
- C. MIBG scan
- D. Serum prolactin levels
- E. Short Synacthen test

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6. An 84 year old woman was admitted to hospital with an acute episode of delirium. She complained of nausea and was dry retching but not vomiting. She could also feel her heart beating rapidly. A systematic review revealed that she had developed urge incontinence of urine and faecal frequency. Her daughter said that she had been unable to sleep and had been sitting awake at night. She had Alzheimer's disease and had been commenced on Galantamine for this two weeks prior to admission.

Which symptom is least likely to be a side-effect of her cholinesterase inhibitors?

- A. Diarrhoea
- B. Insomnia
- C. Nausea
- D. Palpitations
- E. Urinary urgency

7. An 80 year old patient was admitted to hospital with right sided weakness. He had smoked for 60 years and had diet-controlled type 2 diabetes and hypertension. He was taking amlodipine.

On examination he had a right-sided hemiplegia affecting the upper and lower limb and jargon aphasia. He was diagnosed as having a stroke.

What is the chance of recurrence of stroke at 1 year?

- A. 2%
- B. 8%
- C. 11%
- D. 16%
- E. 20%

8. A 68 year old man was seen at outpatient clinic with pain over his right hip worsening over a number of months. He also developed pain over his left chest wall over the preceding few weeks. Both pains were worse at night.

Investigations:

Serum corrected calcium	2.30 mmol/L (2.20–2.60)
Serum phosphate	1.02 mmol/L (0.8–1.4)
Plasma parathyroid hormone	65 ng/L (14 - 72)mzyc
Serum 25-OH-cholecalciferol	36nmol/L (45–90)
Serum albumin	38g/L (37–49)
Serum alanine aminotransferase	14U/L (5–35)
Serum alkaline phosphatase	763U/L (45–105)
Serum creatinine	78µmol/L (60–110)
Haemoglobin	110g/L (130–180)
Erythrocyte sedimentation rate	40 mm/hr mm/1st h (<20)

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What investigation is most likely to reveal the underlying diagnosis?

- A. abdominal ultrasound scan
- B. prostate specific antigen levels
- C. radioisotope bone scan
- D. serum protein electrophoresis
- E. serum transglutaminase autoantibodies

9. A 92 year old woman attended pre-operative clinic ahead of an elective right total hip replacement and was issued with a walking stick from the ward stock.

Picture



Which of the following best describes the stick:

- A. It is a tripod stick
- B. The ferrule needs replacing
- C. It has a Fischer handle
- D. It should be held in the same hand as the impaired leg
- E. It should be waist height

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10. A 90 year old woman attended the emergency department following a fall. The fall was non-syncope but she was unable to get up by herself and had to call an ambulance for help. Her family said that she'd recently been struggling to mobilise independently around the house and get in and out of the shower.

On examination, her blood pressure was 120/70 with no postural drop. She had an ejection systolic murmur over her left sternal edge, loudest in expiration with a normal second heart sound. A 3m timed up and go test shows her to be unsteady on her feet mobilising without walking aids. Urinalysis showed protein ++, leucocytes +, nitrites -ve.

What is the most appropriate next step management option?

- A. Admit pending physiotherapy and OT assessment
- B. Commence trimethoprim and discharge
- C. Discharge with referral to intermediate care at home
- D. Discharge with referral to the community falls team
- E. Multidisciplinary assessment in the emergency department

11. An 82 year old woman was admitted following functional decline. She was diagnosed as having a pneumonia and treated with antibiotics. One week following admission, the MDT meeting reported her to have a Barthel index of 12, compared with a pre-morbid score of 17 and suggested a period of residential rehabilitation.

Which of the following is not included in the Barthel index?

- A. Continence
- B. Mobility on the stairs
- C. Transfers
- D. Cognition
- E. Dressing

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12. An 81 year old woman is seen for routine follow-up in osteoporosis clinic. While in the clinic her son reports that her hearing is dreadful, despite new hearing aids. You have a look at the aids, they appear to be working normally and you have been able to speak to the lady in clinic without obvious difficulty. Otoscopy is normal.

What is the most likely reason for her ongoing hearing problem?

- A. Impacted wax
- B. Perforated ear drum
- C. Feedback
- D. Not wearing the hearing aid
- E. Battery is flat

13. A 75 year old lady developed sudden, painless, visual loss to the left eye. There was no associated motor or tactile sensory symptoms. She had hypertension and was taking Amlodipine.

On examination she had bilateral ptosis, complete on the left and partial on the right. On lifting her eyelid on the left she was able to see, but her eye was deviated down and out and she was unable to adduct it. Her right eye movement was normal. There was no other focal neurology.

Investigations:

CT head

mild periventricular leukoareosis

What is the most likely cause of her third nerve palsy?

- A. left hemispheric stroke
- B. left midbrain stroke
- C. myasthenia gravis
- D. posterior communicating artery aneurysm
- E. right hemispheric stroke

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14. A 72 year old woman was seen in pre-operative clinic for routine assessment prior to elective total knee replacement scheduled to take place under spinal anaesthetic. She described one episode of short-lived central chest tightness associated with shortness of breath 6 months prior to the consultation. This came on after strenuous gardening and resolved at rest. She had osteoarthritis, hypertension and ischaemic heart disease and was taking Aspirin, Bisoprolol, Ramipril and Simvastatin.

On examination her blood pressure was 138/78 mmHg without orthostatic drop. She had a mild ejection systolic murmur with a normal second heart sound. Jugular venous pressure was normal and there was no sacral or ankle oedema.

Investigations:

12 lead ECG

sinus rhythm, 84bpm

What is the most appropriate next step?

- A. Bruce protocol exercise tolerance test
- B. coronary angiography
- C. Dobutamine stress echocardiography
- D. proceed to surgery as planned
- E. standard 2D echocardiography

15. An 82 year old woman presented to outpatient clinic with non-specific symptoms of weight loss and fatigue. She had been having these symptoms over the last 6 months and had lost 21/2 stone during this time. On further questioning she revealed she has been suffering from intermittent night sweats over the same period of time.

On examination she had a temperature of 37.8 and a palpable spleen.

Investigations:

Haemoglobin	105 g/L (115–165)
MCV	85fL (80–96)
Platelet count	$130 \times 10^9/L$ (150–400)
White cell count	$2.0 \times 10^9/L$ (4.0–11.0)
Neutrophil count	$1.2 \times 10^9/L$ (1.5–7.0)

Blood film: Leucoerythroblastic cells and Tear drop poikilocytosis

What is the likely diagnosis?

- A Acute myeloid leukaemia.
- B Chronic Myeloid Leukaemia

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- C Chronic myelomonocytic leukaemia
- D Myelodysplasia
- E Myelofibrosis

16. An 88 year old man was referred to rapid access clinic by his GP. He was concerned about a painful ulcer that has appeared on the patient's right leg over the last 5 days. The patient usually mobilised around the house with a frame and used a mobility scooter outdoors. At the time of being seen he was unable to mobilise due to the pain in his leg. He had a past history of right hemiarthroplasty, ischaemic heart disease and Crohn's disease which was stable on azathioprine. His other medications include – Paracetamol 1g QDS, Aspirin 75ng OD, Bisoprolol 2.5mg OD, Ramipril 5mg OD, Simvastatin 40mg OD.

On examination Temperature 36.9. Fully alert with AMT of 10/10. Cardiovascular examination is normal, and there is mild pitting oedema to the ankles. There is an ulcer on the right leg.

Picture of the ulcer seen on the patient's leg



What is the most appropriate treatment?

Options:

- A. I.V broad-spectrum antibiotics
- B. Topical antibacterial dressings
- C. Increase Azathioprine
- D. Oral Corticosteroids
- E. Compression bandaging

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17. 75 Year old woman was admitted to the acute medical admissions unit. One week prior to admission she had a cough, fever and sweats for 24hours. A few days later her speech became muddled and did not make sense to her. She was unsteady on her feet and fell over a couple of times. In the past she was fit and well apart from controlled hypertension, osteoarthritis of the left knee and occasional cold sores, although these had not occurred recently.

On examination temperature was 38.0, GCS 15, No photophobia but some neck stiffness. Her Romberg's test was positive and she had difficulty heel - toe walking. No other neurological signs were detected

Investigations:

FBC, UE, LFTS. Ca ²⁺ , PO ₄ , TSH	all within normal ranges
ESR	5
CRP	<5
CT scan of the head	No abnormality detected

Cerebrospinal fluid:

Opening pressure	250mmH ₂ O (120-250)
Total protein	0.59g/L (0.15-0.45)
CSF: serum glucose	4.1:6.5
Red cell count	51/ μ L (0)
Lymphocyte count	20/ μ L (\leq 3)
Neutrophil count	0/ μ L (0)

Urinalysis Protein ++, Blood +, Nitrite +, leucocyste esterase +

What is the likely diagnosis?

- A. Urinary tract infection
- B. Encephalopathy
- C. Cerebral Abscess
- D. Bacterial meningitis
- E. Viral encephalitis

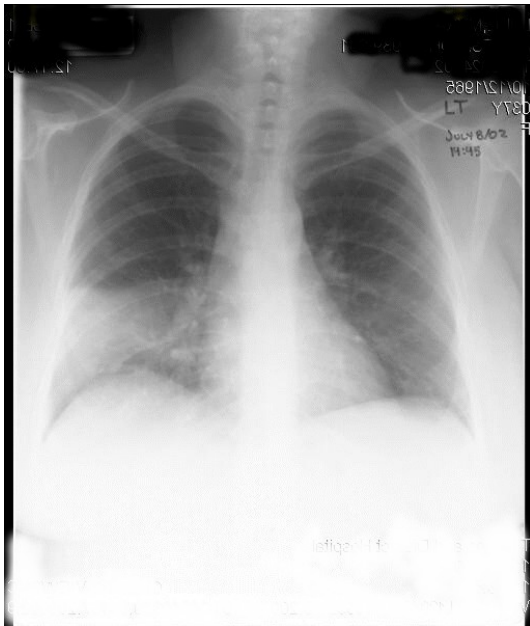
18. A 78 year old woman was seen on the medical admissions unit. She was originally from Thailand but moved to the UK 8 years ago with her English husband. She returns to Thailand regularly for holidays. She spoke limited English and her husband had to translate. She was previously very well. She presented with a 6 week history of cough productive of green sputum, but no haemoptysis or dyspnoea. Her GP had prescribed her a 7 day course of Amoxicillin, but there was no improvement in symptoms after finishing the course 10 days ago. She described fever and sweats, with some weight loss in the 5 days leading up to admission.

On examination she had a temperature 39.3°C and her chest was clear and there was no evidence of lymphadenopathy or oral candida

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Investigations:

Haemoglobin	104g/L (115–165)
White cell count	6.7× 10 ⁹ /L (4.0–11.0)
Platelet count	203× 10 ⁹ /L (150–400)
Serum C-reactive protein	22 mg/L (<10)
Serum alanine aminotransferase	65 U/L (5–35)
Serum albumin	22 g/L (37–49)
Erythrocyte sedimentation rate	120 mm/1st h (<30)



What is the next most appropriate investigation?

- A. Urine sample for Antigens
- B. Sputum Sample for MC&S
- C. High resolution CT Chest
- D. Bronchoscopy with alveolar lavage
- E. Sputum samples for Acid fast Bacilli

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19. 76 year old Caucasian man, presented to the ambulatory assessment unit. He returned from a ten day holiday in Thailand two weeks prior to admission

He presented with a 4 day history of coryza, sore throat and cough productive of white sputum. He also complained of opening his bowels twice daily and passing loose stools with no blood present. The day prior to admission he developed sore, red eyes and then noticed a rash appearing on his feet which subsequently moved upwards.

On examination his temperature was 38.5, there was a solitary lymph node in the left supraclavicular fossa. There was a maculopapular rash involving his palms, soles, limbs, trunk and face. There were no vesicles.

A few crackles were present at the left base and PaO₂ on air was 7.47. He had bilateral conjunctivitis

Haemoglobin	148g/L (130–18)
White cell count	7.1× 10 ⁹ /L (4.0–11.0)
Platelet count	229× 10 ⁹ /L (150–400)

Serum alkaline phosphatase	623 U/L (45–105)
Serum alanine aminotransferase	362U/L (5–35)
Serum gamma glutamyl transferase	551 U/L (<50)
Serum total bilirubin	36 μmol/L (1–22)
C Reactive Protein	39 (<10)

Chest X- Ray Clear
Urinalysis

Protein +++, Blood +++, Nitrite Nil,
leucocyste esterase Nil

What is the likely diagnosis?

- A. Cocksakie
- B. Measles
- C. Secondary syphilis
- D. Epstein Barr Virus
- E. Cytomegalovirus

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20. A 94 year old man has been admitted to the Geriatric ward from MAU. He is currently on antibiotics for community acquired pneumonia. This is his fourth admission in 5 months with pneumonia. On each admission he has been treated with antibiotics and recovered to return to his warden aided flat. He had a small stroke 2 years ago but is not left with any residual neurological deficit. There is no other past medical history.

On examination: Temperature 37.8, Sat 95% on air, crackles right base, not coughing up sputum. His chest x-ray showed patchy shadowing at the lung bases thought to be inflammatory. When comparing his chest X-ray with previous films it is evident that patchy changes were present at both the right and left lung bases at different times.

Haemoglobin	101g/L (130–18)
White cell count	$8.2 \times 10^9/L$ (4.0–11.0)
MCV	75fL (80–96)
Neutrophil count	$6.0 \times 10^9/L$ (1.5–7.0)
Serum alkaline phosphatase	60 U/L (45–105)
Serum gamma glutamyl transferase	551 U/L (<50)
Serum total bilirubin	14 $\mu\text{mol/L}$ (1–22)
Serum albumin	34g/L (37–49)
Serum alanine aminotransferase	30U/L (5–35)
C Reactive Protein	65 (<10)
Serum sodium	130mmol/L (137–144)
Serum potassium	4.0mmol/L (3.5–4.9)
Serum urea	6.5mmol/L (2.5–7.0)
Serum creatinine	120 $\mu\text{mol/L}$ (60–110)

What is the most likely reason for this patient's clinical presentation?

- A. Underlying bronchogenic carcinoma
- B. Aspiration oro-pharyngeal contents into the airway
- C. Broncho-oesophageal fistula
- D. A failing immune system
- E. Basal bronchiectasis

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21. An 81 year old man was admitted to the medical admissions unit following a fall. He had fallen outside on his caravan park where he lived. He had no family but the neighbour who called the ambulance told the paramedics she had seen him wondering around the caravan park lately walking as though he was drunk. She told them she had seen him fall a few times lately but he always seemed able to get up by himself until the day of admission. She had also noticed that he had forgotten to put his bit out and to collect the newspaper from his door step over the last few months so she had been doing this for him.

On examination he was unkempt with dirty clothes. His clothes were soaked with urine, his AMT on admission was 6/10 and a later MMSE showed a score of 24/30. Neurological examination revealed a markedly ataxic gait.

What is usually the first clinical sign of this disorder?

- A. Dementia
- B. Urinary Incontinence
- C. Hemiparesis
- D. Gait disturbance
- E. Faecal Incontinence

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22. An 89 year old man with a background of dementia is admitted from a nursing home. The care home staff are concerned as the patient has developed diarrhoea over the last 48hours and appears very unwell. He was seen by the GP 10 days prior to admission as he was increasingly lethargic and not eating as much as usual. The GP was concerned about a UTI as the patient had an indwelling catheter and gave the patient a course of amoxicillin which finished 72 hours prior to admission.

On examination: Temperature 38.2, BP 95/50, P105, patient appears to be in pain on palpation of the lower abdomen

His bloods:

Haemoglobin	150g/L (130–18)
White cell count	$20.0 \times 10^9/L$ (4.0–11.0)
MCV	85fL (80–96)
Neutrophil count	$16 \times 10^9/L$ (1.5–7.0)
Serum alkaline phosphatase	46 U/L (45–105)
Serum gamma glutamyl transferase	40 U/L (<50)
Serum total bilirubin	6 $\mu\text{mol/L}$ (1–22)
Serum albumin	38g/L (37–49)
C Reactive Protein	65 (<10)
Serum sodium	130mmol/L (137–144)
Serum potassium	4.0mmol/L (3.5–4.9)
Serum urea	6.5mmol/L (2.5–7.0)
Serum creatinine	120 $\mu\text{mol/L}$ (60–110)
Serum corrected calcium	2.3mmol/L (2.2 – 2.6)
Serum Phosphate	1.1mmol/l (0.8 -1.4)

Which of the following is the most likely cause of the diarrhoea?

- A. Ischaemic colitis
- B. Norovirus
- C. Clostridium difficile enterocolitis
- D. Salmonella enteritis
- E. Non-specific antibiotic associated diarrhoea

23. A GP has referred an 80 year old lady to memory clinic. She admits to being forgetful with names, dates and loosing items around the house. You perform a Montreal Cognitive Assessment (MOCA).

Which one of the following tests attention?

- A. Repeating a number backwards
- B. Drawing clock face
- C. Recalling 5 words
- D. Identifying the similarity between a train and a bicycle

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E. Naming words beginning with F

24. The same 80 year old lady scores 20/30 on the MOCA test. Her family have noticed her memory decline over a year and she has been getting lost on familiar routes when driving the car. She has also left the gas hob lit on several occasions. You suspect she has moderate Alzheimer's dementia and discuss with her and her family about commencing treatment.

Before commencing treatment which of the following is the most appropriate investigation?

- A. CT head
- B. Urine dip
- C. ECG
- D. CXR
- E. Blood pressure

25. A 90 year old woman was admitted to the medical admissions unit from a care home. She had been admitted as she had been very drowsy over the last few days and was unable to take anything orally including medication for Parkinson's disease. As you were about to review her the nurse looking after her asked you to review the patient's sacrum. You saw an area of redness that was non-blanching with a superficial split in the skin.

How would you grade this ulcer?

- A. Stage 1
- B. Stage 2
- C. Stage 3
- D. Stage 4
- E. You should not commit until tissue viability have assessed.

26. An 86 year old woman presents to clinic with intractable constipation. She has been constipated for 6 months. She was initially treated with a course of Sodium docusate 200mg twice daily and Senna. She then had a 3 month course of Movicol 2 sachets twice daily without any effect.

What is the next appropriate treatment?

- A. Methylnaltrexone bromide
- B. Co-danthramer
- C. Prucalopride
- D. Manual Evacuation
- E. Sodium picosulfate

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27. An 80 year old female attends clinic with urinary incontinence. She has a history of COPD, hypertension and mild CCF. Her medication includes Amlodipine 5mg od, Furosemide 40mg od, Ramipril 5mg, Simvastatin 40mg nocte and a Tiotropium inhaler. She suffers with urgency during the day and is up at night at least 3 times to pass urine. A frequency volume diary suggests frequent small volume incontinence, worst in the early afternoon.

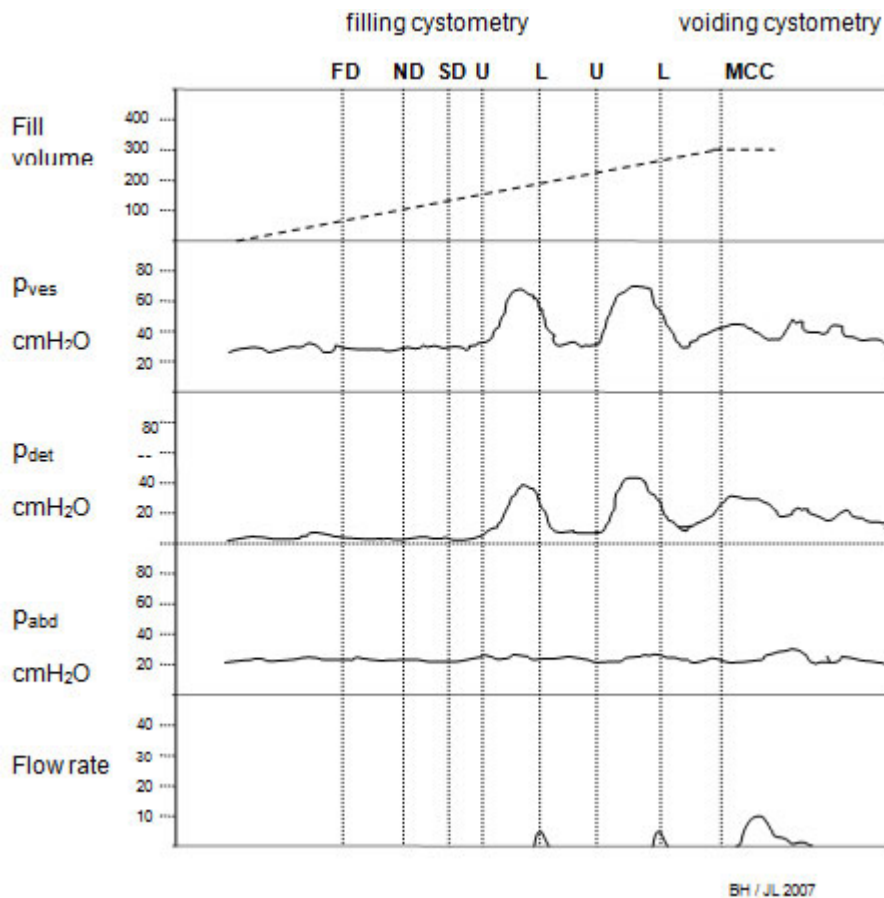
Which of the following is the appropriate first step in management?

- A. Stop furosemide
- B. Vaginal oestrogens
- C. Start Mirabegron
- D. Start Trosipium
- E. Stop Ramipril

28. An 85 year old woman presented to clinic with urinary incontinence. She has a background of Diabetes, Hypertension, Osteoarthritis and Ischaemic heart disease. Her medication includes Metformin 500mg BD, Novomix 30 insulin 10 units OD, Ramipril 5mg OD Amlodipine 5mg OD, Aspirin 75mg OD, Simvastatin 40mg Nocte and Paracetamol 1g QDS/PRN. She describes symptoms of urinary frequency during the day but is unsure of the exact number of time she urinates. She wears pad as she frequently does not make it to the toilet to pass urine. She finds she wakes up with a wet pad in the mornings.

She undergoes urodynamic the results of which are below:

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FD = First Desire to Void, ND = Normal desire to void, SD = Strong desire to void, U = Urgency, L = leakage, MCC = Maximum Cystometric Capacity.

Which type of urinary incontinence does this causing this woman's symptoms?

- A. Stress incontinence
- B. Detrusor instability
- C. Mixed
- D. Small bladder capacity
- E. Indeterminate

29. For the patient in the previous question:

Which of the following would be most appropriate first-line in the treatment of this condition?

- A. Tolterodine
- B. Alfuzosin
- C. Duloxetine
- D. Mirabegron
- E. Propatheline

30. You review an 85yr old lady on the medical assessment unit who was admitted generally unwell from a nursing home. She is bedbound and cachectic.

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Which of these are true of the Malnutrition Universal Screening Tool (MUST) score:

- A. A low score equates to high risk
- B. Acute disease is not considered
- C. Weight and height are required
- D. It does not consider unplanned weight loss
- E. It only assesses risk and makes no recommendations

31. You see a 65 year old gentleman in movement disorder clinic. He presents with a right sided resting tremor, bradykinesia, some cogwheel rigidity and reduced arm swing on that side. He is not on any medication. You diagnose likely idiopathic Parkinson's disease and feel a trial of a dopamine agonist is appropriate.

Which of the following side effects of dopamine agonists should you emphasise given his age and gender?

- A. Nausea
- B. Diarrhoea
- C. Rash
- D. Pathological gambling
- E. Fever

32. Your local Trusts' latest initiative is focussed on pressure ulcers. It is felt to be the responsibility of all staff members to be able to recognise those at risk.

Which of the following is not a category in the Waterlow pressure sore risk assessment?

- A. Age
- B. Weight
- C. Continence
- D. Level of consciousness
- E. Skin type

33. A 93y.o. woman with a background of COPD and is still smoking suffered a fall from after tripping over a loose pavement and sustained a Colles' fracture.

What is the next most appropriate step in her bone health management?

- A. Use FRAX risk assessment to calculate risk of future fractures
- B. Refer on for a bone mineral density measurement
- C. Start oral bisphosphonate; and ensure adequate calcium and vitamin D
- D. Use QFracture risk assessment to calculate risk of future fractures
- E. Ensure adequate calcium and vitamin D supplementation

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34. A 68 year old man underwent a bone mineral densitometry after sustaining a low trauma radial fracture. His bone mineral density and T-scores are shown below.

Site	BMD (g/cm ²)	T-score	Z-score
AP spine	1.091	1.97	3.04
Left femur neck	1.217	2.20	2.63
Left total hip	1.237	2.21	2.65

The reporting radiologist suggest that these values may be falsely elevated.

Which condition does NOT artefactually raise bone mass or mineral density on dual energy x-ray absorptiometry?

- A. Osteoarthritis
- B. Vertebral fracture
- C. Vertebroplasty
- D. Myelofibrosis
- E. Ankylosing spondylitis

35. A 79 year old man has had at least 3 falls in the last 6 months. He describes reduced walking speed and muscle strength.

His 25-OHD levels were 10nmol/L indicating vitamin D deficiency.

This deficiency affects skeletal muscle by

- A. Reducing phosphate uptake into skeletal muscle
- B. Up regulating vitamin D receptor in skeletal muscle
- C. Atrophy of Type 1 slow acting muscle fibres
- D. Atrophy of Type 2 fast acting muscle fibres
- E. Increasing glucose uptake to compensate for slower muscle contraction

36. A 65 year old woman was admitted to the acute medical services with a fall. Her mobility has deteriorated and she has had 4 falls in the last 2 weeks. Besides that, she also describes fever, difficulty swallowing, arthralgia and myalgia especially of her proximal lower limb muscles. Examination revealed an erythematous and scaly rash symmetrically over her metacarpophalangeal and interphalangeal joints. There was also a symmetrical pink-purple rash over her eyelids. Muscle strength in her limbs was weaker in the proximal region.

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What is the most likely diagnosis?

- A. Dermatomyositis
- B. Psoriasis
- C. Polymyalgia rheumatic
- D. Limited scleroderma
- E. Systemic sclerosis

37. An 83 year old woman presented to the falls clinic after suffering 4 falls in the last 3 months. Each time, it appears she trips over either a step or pavement. She also finds that her right foot drags when she walks. Her past medical history includes ischaemic heart disease, peripheral vascular disease, diabetes mellitus and chronic obstructive airway disease.

On examination, there were no abnormalities of her cranial nerves. Neurological examination of her upper limbs was normal. The power in her left leg, tone and reflexes were normal. Power in her right leg was normal aside from a weakness in dorsiflexion of her foot. Sensation to light touch was reduced in both feet to her ankles.

What is the next most appropriate investigation?

- A. Nerve conduction study
- B. CT brain
- C. MR brain
- D. Right ankle x-ray
- E. MR spine

38. A 76 year old woman was referred to the community falls team as part of her ongoing management. At her initial assessment, a Berg Balance Scale was done.

Which if the item description below is NOT part of the scale?

- A. Sitting to standing
- B. Standing with eyes closed
- C. Standing on toes
- D. Reaching forward with outstretched arm
- E. Turning 360 degrees

39. A 75-year-old man with end stage heart failure has been admitted to MAU. He has been vomiting over the last few days.

Which anti emetic would you avoid?

- A. Cyclizine
- B. Metoclopramide

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- C. Ondansetron
- D. Haloperidol
- E. Domperidone

40. An 80-year-old man with advanced lung cancer is breathless at rest. He is not hypoxic.

What is the most appropriate treatment?

- A. Oxygen therapy
- B. Opioids
- C. Benzodiazepines
- D. Opioids and benzodiazepines
- E. Antidepressants

41. A 75 year old man was referred into the medical admissions unit with his wife by his GP. His wife described an episode of altered behaviour that had occurred a few days previously. Her husband had been walking around the house, repeatedly asking where he was and what was happening. The episode lasted for 5-6 hours after which he returned to normal, remained well and had no memory of the event. This has never occurred before and he was taking no regular medication.

What is the most likely diagnosis?

- A. Delirium
- B. Dementia with Lewy bodies
- C. Partial seizure
- D. Transient global amnesia
- E. Transient ischaemic attack

42. An 83 year old woman was admitted from home with functional decline and recurrent falls. She reported a background of hypertension, ischaemic heart disease, atrial fibrillation, and COPD. One year ago she had been living independently and was independently mobile to the shops (100m down the road). On admission she was mobile with a frame from room to room, and was struggling at home with intermittent help from her family. Her daughter was concerned that she is increasingly confused and not managing at home.

You explain to your core medical trainee (CMT) that this lady would benefit from comprehensive geriatric assessment (CGA). Your CMT asks you more about this process.

Which of the following concerning CGA is NOT true?

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- A. CGA improves independence
- B. CGA includes physical and mental health, function, social and environment
- C. Compared to usual care it reduces readmission
- D. It can be carried out by a geriatrician independently
- E. It is iterative

43. A 90 year old man with a background of dementia, hypertension, AF, previous peptic ulcer (10 years ago) and COPD has been transferred to your ward from medical admissions. He reported living in a residential home and was normally able to transfer from bed to chair on a good day; he was able to hold a short conversation. He was admitted with delirium and a non-pneumonic lower respiratory tract infection and was not wheezy. The acute medical team started him on oral antibiotics and he had received some IV fluid. He remained delirious, but his inflammatory markers were improving.

His observations on transfer to your ward were:

BP 120/80, pulse 90, respiratory rate 20, sats 89% on air, temp 37.5.

On transfer to your ward he had the following medications on his drug chart:

Doxycycline 100mg OD
Paracetamol 1g QDS
Symbicort 200/6 two puffs BD
Salbutamol 2 puffs PRN
Ramipril 5mg OD
Atenolol 50mg OD
Calcichew D3 Forte one tablet BD
Furosemide 40mg OM
Simvastatin 40mg ON
Warfarin as directed
Naproxen 500mg BD
Lansoprazole 30mg OM

Which of the following medication classes was most frequently implicated in causing preventable admissions to hospital according to a recent systematic review?

- A. ACE Inhibitors
- B. Anticoagulants
- C. Beta-blockers
- D. Diuretics
- E. NSAIDs

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44. An 89 year old man attended an outpatient's clinic accompanied by his daughter. They reported a background of moderate vascular dementia, hypertension, COPD and falls and that he lived in a care home, where he was independently mobile. He was taking the following medications:

Aspirin 75mg OM
Amlodipine 5mg OM
Ramipril 5mg OM
Bendroflumethiazide 2.5mg OM
Doxazocin 4mg OM
Seretide 250 two puffs BD

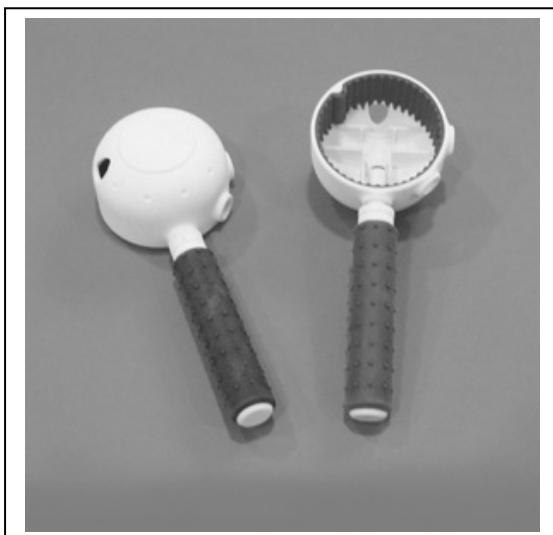
His blood pressure in clinic was 150/90, there was no postural hypotension. The patient's daughter asked if the blood pressure medication may be making him more likely to fall over.

Which of the following antihypertensive is associated with an increased risk of falls particularly in the first 3 weeks following prescription?

- A. Amlodipine
- B. Atenolol
- C. Bendroflumethiazide
- D. Doxazocin
- E. Ramipril

45. An 80 year old lady with rheumatoid arthritis was admitted with urinary tract sepsis which was successfully treated. Arrangements were made for discharge and following OT assessment she was supplied with a number of pieces of equipment.

What are the items shown in the picture below?



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- A. Adjustable weights for balance training
- B. Door handle aids
- C. Ergonomic spoons
- D. Jar openers
- E. Tap turners

46. A 90 year old man, with a background of dementia and hypertension, was admitted with a community acquired pneumonia and acute kidney injury. He was living in rented accommodation and had a package of care involving 4 calls a day, but was reportedly struggling at night. He was treated with IV antibiotics and IV fluids and eventually made a good recovery. However his care needs were felt to have increased and following assessment and discussion with him and his family it was felt that he would need to be admitted to a care home on discharge. As part of his assessment to determine eligibility for funding he underwent a continuing healthcare assessment.

Which of the following is NOT included in a continuing healthcare assessment?

- A. Behaviour
- B. Continence
- C. Mobility
- D. Skin
- E. Vision

47. A 75 year old woman was admitted to the stroke unit with right sided weakness. She had type 2 diabetes.

Examination revealed a right sided hemiparesis with no higher cortical dysfunction. She was diagnosed as having a stroke.

On initial assessment her Electrocardiogram revealed atrial fibrillation which was not present on previous electrocardiograms. It was decided by her stroke consultant to start her on a novel oral anticoagulant as prevention from further strokes due to her atrial fibrillation.

Regarding novel oral anticoagulants, which of the following statements are correct?

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- A. The risk of intracranial bleed is lower with NOACs compared to warfarin
- B. Warfarin is at least as effective as all NOACs in terms of preventing thrombo-embolic stroke
- C. The chance of one suffering a Gastrointestinal bleed is greater with Rivaroxaban compared to warfarin
- D. Clotting profile needs to be checked at least 3 monthly on a routine basis when one is on NOACs
- E. Noval oral anticoagulants are contraindicated in patients with non-valvular atrial fibrillation and end stage renal failure to prevent cardio embolic stroke

48. A 75 year old patient was admitted to hospital with left sided weakness. She had hypertension and hypercholesterolaemia. She was taking Ramipril

On examination she had a left-sided hemiplegia affecting the upper and lower limb and left sided sensory inattention. He was diagnosed as having a stroke.

What are the chances of dependency at 1 year?

- A. 20%
- B. 30%
- C. 40%
- D. 50%
- E. 60%

49. An 85 year old woman with severe dementia (MMSE 0/30) was admitted from a nursing home with a right lower lobe pneumonia. The care home staff reported that she had been struggling with eating and coughed violently during meals. Over the last year she had five episodes of aspiration pneumonia diagnosed and treated. She had no family.

Her pneumonia was treated with IV antibiotics and she improved but a bedside swallow assessment revealed that she was at high risk of further aspiration on all consistencies. She appeared to gain pleasure from eating and appeared distressed if not fed. She actively resisted attempts to place an NG tube but lacked the capacity to decide on the best approach.

Which of the following is the most reasonable next step in her management?

- A. Allow a normal diet
- B. Comfort feeding with safest consistencies

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- C. Insertion of a PEG should be arranged
- D. Keep her nil by mouth
- E. Nasogastric feeding tube

50. An 85 year old lady was seen in clinic with her daughter. They reported gradually worsening memory problems over the last year, this culminated in her leaving the oven on overnight. Fortunately no harm was done and her daughter has had the gas disconnected from the house. As part of your assessment you carry out a standard cognitive assessment in clinic.

Which of the following cognitive scales is affected by copyright restrictions?

- A. Abbreviated Mental Test Score (AMTS)
- B. Addenbrooke's Cognitive Examination – III (ACE-III)
- C. Confusion Assessment Method (CAM)
- D. Mini Mental State Examination (MMSE)
- E. Montreal Cognitive Assessment (MOCA)