

EMQs and SBAs for Medical Finals

SECOND EDITION



Jonathan Bath and Rebecca Morgan

WITH MEHOOL PATEL

 WILEY-BLACKWELL

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Preface

The idea for the first edition of *EMQs and MCQs for Medical Finals* was to provide a solid question book that provided detailed explanations with the answers to enable the reader to learn not only why the answer was correct, but also why the other options were incorrect. At the time of publication in 2007, the number of question and answer books with this detailed answer format was limited, allowing *EMQs and MCQs for Medical Finals* to establish a niche, which has been quickly recognized by subsequent question and answer books to be the preferred format for examination preparation resources.

The second edition reflects feedback from many students, doctors and other readers and has led to many improvements. The title of the book has evolved to better describe the question format used in current examinations, question stems have been shortened to allow quick and precise reading of questions, and factual information has been updated where needed to reflect changes in clinical practice. Finally, the five practice examination papers have been indexed to allow for rapid review of specific areas, for example Cardiology or Vascular Surgery, as required.

We hope that these improvements will ensure that *EMQs and SBAs for Medical Finals* will continue to provide an excellent resource for identifying key examination topics and, more importantly, help to focus preparation on less familiar areas of knowledge for Finals.

Jonathan Bath
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Abbreviations

AAA	abdominal aortic aneurysm
ABC	airway–breathing–circulation
ABG	arterial blood gas
ACE	angiotensin-converting enzyme
ACTH	adrenocorticotrophic hormone
ADH	antidiuretic hormone
A&E	Accident and Emergency
AFP	alpha-fetoprotein
ALL	acute lymphocytic leukaemia
ALT	alanine transaminase
AML	acute myeloid leukaemia
AMT	abbreviated mental test
ANCA	antineutrophil cytoplasmic antibody
A/P	antero-posterior
APTT	activated partial thromboplastin time
ARMD	age-related macular degeneration
AST	aspartate transaminase
AV	atrioventricular
BCG	Bacille Calmette Guerin
BMI	body mass index
BPH	benign prostatic hyperplasia
bpm	beats per minute
CA 15-3	cancer antigen 15-3
CEA	carcino-embryonic antigen
CK	creatine kinase
CLL	chronic lymphocytic leukaemia
CML	chronic myeloid leukaemia
CMV	cytomegalovirus
CoA	coenzyme A
COPD	chronic obstructive pulmonary disease
CPP	cerebral perfusion pressure
CREST	calcinosis, Raynaud's phenomenon, oesophageal dysmotility, sclerodactyly and telangiectasia)
CSF	cerebrospinal fluid
CT	computed tomography
CT-PA	computed tomography with pulmonary angiography
DC	direct current

DCIS	ductal carcinoma <i>in situ</i>
ds-DNA	double-stranded DNA
ECG	electrocardiogram/electrocardiography
ECT	electroconvulsive therapy
EMDR	eye movement desensitization and reprocessing
ENT	ear, nose and throat
ERCP	endoscopic retrograde cholangiopancreatogram
ESR	erythrocyte sedimentation rate
ETT	exercise tolerance test
FAST	focused assessment with sonography for trauma
FENa	fractional excretion of sodium
GBM	glomerular basement membrane
GCS	Glasgow coma scale
γ -GGT	gamma glutamyl transpeptidase
GORD	gastro-oesophageal reflux disease
GP	general practitioner
G6PD	glucose-6-phosphatase
GTN	glyceryl trinitrate
hCG	human chorionic gonadotropin
5-HIAA	5-hydroxyindoleacetic acid
HIDA	hepatobiliary iminodiacetic acid
HIV	human immunodeficiency virus
HMG CoA	3-hydroxymethylglutaryl coenzyme A
HMMA	4-hydroxy methyl mandelate
HPV	human papilloma virus
HSV	herpes simplex virus
HTLV	human T-cell lymphotropic virus
ICP	intracerebral pressure
ICU	Intensive Care Unit
IgA	immunoglobulin A
IgE	immunoglobulin E
IgG	immunoglobulin G
IL	interleukin
IM	intramuscular
INR	international normalized ratio
IUCD	intrauterine contraceptive device
IV	intravenous
IVU	intravenous urogram
JVP	jugular venous pressure
LDH	lactate dehydrogenase
LFT	liver function test
LKM1	liver/kidney microsomal type I antibodies
LSD	lysergic acid diethylamide
MAOI	monoamine oxidase inhibitor
MAP	mean arterial pressure

MCV	mean corpuscular volume
MI	myocardial infarction
MMR	measles, mumps and rubella
MRI	magnetic resonance imaging
NMDA	N-methyl-D-aspartic acid
NSAID	non-steroid anti-inflammatory drug
NSE	neurone specific enolase
OGD	oesophagogastroduodenoscopy
PaCO ₂	partial pressure of carbon dioxide in arterial blood
PaO ₂	partial pressure of oxygen in arterial blood
PAS	Periodic acid Schiff
pCO ₂	partial pressure of carbon dioxide in blood
PCP	phencyclidine
PDA	patent ductus arteriosus
PEFR	peak expiratory flow rate
PEG	percutaneous endoscopic gastrostomy
PFT	pulmonary function test
pO ₂	partial pressure of oxygen in blood
PSA	prostate-specific antibody
PSC	primary sclerosing cholangitis
PTCA	percutaneous transluminal coronary angioplasty
PUVA	psoralen plus ultraviolet A
SA	sinoatrial
SIADH	syndrome of inappropriate ADH secretion
SLE	systemic lupus erythematosus
SSRI	selective serotonin reuptake inhibitor
TCA	tricyclic antidepressant
TFT	thyroid function test
THC	δ-1-tetrahydrocannabinol
TIBC	total iron binding capacity
TNF-α	tumour necrosis factor α
TPN	total parenteral nutrition
TRH	thyroid-releasing hormone
TSH	thyroid-stimulating hormone
TURP	transurethral resection of the prostate
vWF	von Willebrand factor
V/Q	ventilation-perfusion
VZV	varicella zoster virus

PART 1

Practice Papers

PAPER 1

Questions

Single Best Answer Questions

- 1 Which area of the breast is most commonly affected by breast cancer?
- a. Upper outer quadrant
 - b. Upper inner quadrant
 - c. Lower outer quadrant
 - d. Lower inner quadrant
 - e. Retro-areolar
- 2 A 75-year-old man is referred to cardiology for management of his newly diagnosed atrial fibrillation. His heart rate is 70–90 beats/minute (bpm) and he suffers from palpitations and occasional shortness of breath. He has no past history of cardiovascular disease. Which one of the following is the most appropriate next stage in his management?
- a. Start digoxin for rate control
 - b. Warfarinization to reduce the risk of thromboembolism formation
 - c. Start a beta-blocker for associated hypertension
 - d. Organize an echocardiogram
 - e. Refer back to his general practitioner (GP) as his case can easily be managed in the community
- 3 Which one of the following is NOT a risk factor for breast cancer?
- a. Nulliparity
 - b. Late pregnancy (>30 years)
 - c. Early menarche
 - d. Late menopause
 - e. High dietary dairy intake

4 A 38-year-old man attends Accident and Emergency (A&E) complaining of 12 hours of intermittent chest pain. His pain is central in location with no radiation but some associated nausea. He has a family history of cardiovascular disease. His troponin I is 0.05 (significant >0.1) and his electrocardiogram (ECG) shows no ischaemic changes. He asks you what will happen next. What should you tell him?

- a. He needs to be admitted for further bloods tests
- b. He requires an exercise tolerance test (ETT) before he is discharged
- c. An echocardiogram will be useful in his further management
- d. He can be safely discharged without further follow-up
- e. He should be started on aspirin

5 A 31-year-old man presents to his GP complaining of an itchy rash on his hands. On questioning, he reveals that he works as a dishwasher for a Chinese restaurant. On examination of his hands, there are multiple excoriated sites on the dorsum and over the fingers of both hands with cracking of the skin over an erythematous base. The most likely diagnosis is:

- a. Dermatitis
- b. Lichen planus
- c. Chemical burn
- d. Porphyria cutanea tarda
- e. Psoriasis

6 Optimal assessment of a breast lump in a 55-year-old woman is best described by which one of the following?

- a. Clinical examination, ultrasound, biopsy
- b. Clinical examination and mammogram
- c. Ultrasound, mammogram and biopsy
- d. Clinical examination, mammogram and biopsy
- e. Clinical examination, chest X-ray and biopsy

- 7 A 16-year-old boy with type I diabetes mellitus presents to hospital complaining of abdominal pain, nausea and vomiting. He has been feeling unwell for the last 3 days since he 'caught a cold' from his younger sister. Urine dipstick was taken that showed protein +, ketones ++, glucose +++. Which one of the following insulin regimens should this man be started on?
- a. Normal subcutaneous insulin with hourly blood glucose monitoring
 - b. Sliding scale of insulin with hourly blood glucose monitoring
 - c. Constant insulin infusion with hourly blood glucose monitoring
 - d. Change of normal insulin regimen to once-daily long-acting insulin
 - e. Increase of normal insulin regimen to double requirements
- 8 A 35-year-old man is admitted to the intensive care unit (ICU) with respiratory failure secondary to a fungal chest infection. His past medical history reveals acute myelogenous leukaemia, splenomegaly and a recent bone marrow transplant. His blood results reveal neutropenia and anaemia. Which one of the following should be avoided, unless absolutely necessary?
- a. Incision and drainage of a 4-cm subcutaneous abscess
 - b. Digital rectal examination
 - c. Regular suction of nasopharyngeal secretions
 - d. Daily bloods taken via a central venous catheter
 - e. Regular turning to avoid pressure sores
- 9 An 84-year-old woman re-presents to A&E 2 weeks after admission for control of an 'irregular heart beat' when she was started on digoxin. She now complains of dizziness and intermittent shortness of breath. Her drug history includes atenolol 100 mg od. Her ECG today shows a rate of approximately 40 bpm with no association between P waves and QRS complexes. What is the next step in her management?
- a. Insert a temporary pacing wire
 - b. Give regular atropine
 - c. Start amiodarone 200 mg tds
 - d. Stop digoxin
 - e. Take bloods, including drug levels

- 10** A 78-year-old woman is found by the warden in her apartment, sitting on the floor and very confused. Past medical history is remarkable for pernicious anaemia, type II diabetes mellitus and vitiligo. On examination, she is disorientated and scores 3/10 on the abbreviated mental test (AMT). She is bradycardic at 50bpm, her blood pressure is 152/92 mmHg and she is hypothermic at 34.9°C. Her blood glucose was 4.1 mmol/L. Which one of the following investigations is most likely to reveal the diagnosis?
- a. Thyroid function tests
 - b. ECG
 - c. Computed tomography (CT) scan of the head
 - d. Echocardiography
 - e. Short synacthen test
- 11** A 38-year-old man presents to the dermatology clinic with intensely itchy elbows and knees. Systemic enquiry reveals past episodes of malabsorption relieved by a wheat-free diet. He is not allergic to any medication and maintains a gluten-free diet. The most likely cause of his itch is:
- a. Atypical eczema
 - b. Psoriasis
 - c. Dermatitis herpetiformis
 - d. Scabies
 - e. Polycythaemia rubra vera
- 12** A 69-year-old man is admitted 3 days after suffering a myocardial infarction (MI). He complains of increasing shortness of breath and on observation is tachypnoeic at rest while sitting up. He is also tachycardic, and his jugular venous pressure (JVP) is raised. Auscultation reveals a systolic murmur. An erect chest X-ray is normal. Which one of the following complications of MI is most likely to be the cause of this man's shortness of breath?
- a. Ventricular septal defect
 - b. Recurrent infarction
 - c. Aortic regurgitation
 - d. Heart failure
 - e. Dressler's syndrome

- 13** A 31-year-old breastfeeding woman is referred complaining of breast pain. On examination, there is evidence of a collection in one of the breasts with overlying erythema and associated pain. An ultrasound scan confirms an abscess. What is the most appropriate management?
- a. Oral flucloxacillin
 - b. Incision and drainage of abscess
 - c. Needle aspiration
 - d. Analgesia and cold compress
 - e. Admit for intravenous (IV) antibiotics
- 14** A 69-year-old man with type II diabetes mellitus is brought to hospital with confusion, drowsiness and aggressive behaviour. He lives with his daughter who noticed that he had become 'not himself' and had checked his blood sugar and found it to be 2.3 mmol/L. Which one of the following is NOT associated with hypoglycaemic states?
- a. Liver failure
 - b. Gliclazide
 - c. Insulinoma
 - d. Addison's disease
 - e. Cushing's disease
- 15** A 45-year-old female librarian was admitted with shortness of breath. Her past medical history consists of inflammatory bowel disease but no cardiac problems. On examination, her apex is laterally displaced and on auscultation a fourth heart sound is audible. A two-dimensional echocardiogram shows a dilated heart with an ejection fraction of 20–25%. The most likely cause of her dilated cardiomyopathy is:
- a. Viral
 - b. Alcohol
 - c. Outflow obstruction
 - d. Congenital
 - e. Autoimmune

- 16** A 42-year-old man presents to his GP with a 2-month history of a painless lump in his neck. He has noticed this lump is slowly growing bigger and as he had been feeling tired with sweats at night he had thought it was a lymph node from a 'head cold'. Recently, he has noticed that he can no longer enjoy wine or beer because they cause him pain. Which one of the following diagnoses is the most likely?
- a. Hodgkin's lymphoma
 - b. Infectious mononucleosis
 - c. Non-Hodgkin's lymphoma
 - d. Polycythaemia rubra vera
 - e. Myelodysplastic syndrome
- 17** The most appropriate diagnostic investigation in a patient presenting with chest pain and a widened mediastinum is:
- a. Four limb blood pressure measurements
 - b. Liver function tests (LFTs)
 - c. Lateral chest X-ray
 - d. CT scan of chest
 - e. ECG
- 18** A young child is brought to her GP by her mother, who has noticed she has developed a rash over her face and neck. On examination, there are multiple small pearly papules with a central umbilicated area of keratin plug distributed randomly over her face and neck. Which one of the following is most likely to be the cause of this rash?
- a. Varicella zoster virus (VZV)
 - b. Herpes simplex virus (HSV)
 - c. Molluscum contagiosum
 - d. Eczema
 - e. Pityriasis versicolor
- 19** Mid ward round, a nurse asks you to review a patient. The patient recently suffered an MI. On assessment, you note that the airway is patent but the patient is acutely short of breath. The first step in your management is:
- a. Contact your senior colleagues for assistance
 - b. Perform an arterial blood gas (ABG) analysis
 - c. Attach a cardiac monitor
 - d. Request a chest X-ray
 - e. Complete a primary survey

- 20** A 23-year-old woman is referred to the breast clinic as she noticed a solitary lump in the upper outer aspect of her left breast. She notes that the lump is not painful and there are no overlying changes to the skin. Which one of the following is the most likely diagnosis?
- a. Fibroadenoma
 - b. Ductal carcinoma *in situ* (DCIS)
 - c. Invasive ductal carcinoma
 - d. Breast cyst
 - e. Breast abscess
- 21** A 45-year-old woman presents to A&E with abdominal pain. She is tested for pregnancy and urinary tract infection and undergoes abdominal examination. She is found to have an enlarged spleen with pain localized to the left upper quadrant. Blood tests reveal a haemoglobin level of 9.8 g/dL with a mean corpuscular volume (MCV) of 92 fL. Her white blood cell count was 26×10^9 and platelet count was 135×10^9 . Which one of the following chromosomal translocations is most likely to be found in sufferers of this condition?
- a. t(8;14)
 - b. t(9;22)
 - c. t(14;21)
 - d. t(11;22)
 - e. t(4;14)
- 22** Which one of the following is NOT a clinical finding associated with infective endocarditis?
- a. Osler's nodes
 - b. Retinal haemorrhages
 - c. Splinter haemorrhages
 - d. Clubbing
 - e. Erythema nodosum
- 23** A 58-year-old woman presents to the thyroid clinic to have a check-up for long-term hypothyroidism for which she is taking thyroxine 100 mg od. Her blood results are available in the clinic and demonstrate a high thyroid-stimulating hormone (TSH) and a high thyroxine T4. Which one of the following is most likely to explain these results?
- a. Subclinical hypothyroidism
 - b. Sick euthyroid syndrome
 - c. Non-compliance and overdosing prior to clinic
 - d. Inadequate replacement with thyroxine
 - e. Over-replacement with thyroxine

- 24** An 84-year-old man is urgently referred for increasing swelling of his legs and shortness of breath. On examination, he has oedema up to his groin and has bi-basal inspiratory crepitations up to the mid-zones. He currently takes digoxin and furosemide once daily. You are asked to admit the patient, what changes will you make to his medications?
- a. Add in bumetanide
 - b. Change furosemide to IV and double the daily dose
 - c. Add an angiotensin-converting enzyme (ACE) inhibitor
 - d. Start a beta-blocker
 - e. Add in a thiazide diuretic
- 25** A 35-year-old woman attends A&E with chest pain. Blood tests show a positive troponin and an ECG shows antero-lateral ischaemic changes. Which of the following illegal drugs is associated with this presentation?
- a. Amphetamines
 - b. Cocaine
 - c. Cannabis
 - d. Heroin
 - e. Rohypnol
- 26** A 34-year-old man is referred by the surgical team and seen by a dermatologist for an itchy rash in his elbow creases, which he has been scratching for the past week. On inspection of the rash, he is diagnosed with eczema. Which one of the following patterns is NOT part of the eczema classification?
- a. Atopic eczema
 - b. Asteatotic eczema
 - c. Discoid eczema
 - d. Arthropathic eczema
 - e. Varicose eczema
- 27** Your consultant suggests that you perform a cardiovascular examination on a patient. She is a tall, slim woman wearing glasses who appears otherwise well. What would you expect to find on auscultation?
- a. Systolic murmur at the right upper sternal edge
 - b. Diastolic murmur at the right upper sternal edge
 - c. Systolic murmur at lower left sternal edge
 - d. Systolic murmur at the apex
 - e. Diastolic murmur at the apex

- 28** In patients newly diagnosed with atrial fibrillation on digoxin therapy, which one of the following electrolytes is most important to monitor?
- a. Serum sodium
 - b. Serum potassium
 - c. Serum calcium
 - d. Serum magnesium
 - e. None of the above
- 29** A 54-year-old man presents with pain in his left knee and a red rash on his forearm, elbow and old appendix scar with a white scale that can be rubbed off to leave little spots of bleeding. The nails of his right hand have little roughened depressions. Which one of the following is NOT used in the treatment of this skin disorder?
- a. Topical steroids
 - b. Tar
 - c. Aqueous cream
 - d. Psoralen plus ultraviolet A (PUVA)
 - e. Dapsone
- 30** A 75-year-old man is admitted to hospital following intermittent chest pain for the past 24 hours. His chest pain is central with no radiation but is relieved by glyceryl trinitrate (GTN) spray in 3 minutes. His troponin level is mildly elevated and his ECG shows fixed inverted T waves laterally. He has a past history of peripheral vascular disease. The next stage of his management should include:
- a. An ETT
 - b. A thallium cardiac scan
 - c. Serial ECGs
 - d. CT scan of chest
 - e. Coronary angiogram
- 31** Which one of the following medications is most likely to cause deterioration in thyroid function?
- a. Atenolol
 - b. Atorvastatin
 - c. Amlodipine
 - d. Amiodarone
 - e. Acarbose

- 32** A 69-year-old man presents with gynaecomastia. He has a history of alcohol abuse and drinks approximately 70 units of alcohol per week. Which one of the following is the most likely cause for his gynaecomastia?
- a. Physiological
 - b. Liver failure
 - c. Klinefelter's syndrome
 - d. Hyperthyroidism
 - e. Drugs, including spironolactone
- 33** A 78-year-old woman is referred for increasingly frequent attacks of angina. She is currently using GTN spray prn, verapamil and enalapril. Her symptoms are becoming more severe and even occurring at rest. Which changes in her medications will improve her symptoms?
- a. Change verapamil to diltiazem and start isosorbide mononitrate
 - b. Give regular nitrates
 - c. Change ACE inhibitor
 - d. Add in beta-blocker
 - e. Start digoxin
- 34** Regarding hyperthyroidism, which one of the following statements is correct?
- a. Thyroxine T₄ is more abundantly produced than T₃
 - b. Eyelid retraction can be used as a rough proxy to monitor therapy
 - c. Beta-blockade is always required long term for tachycardia
 - d. T₄ is more potent than T₃
 - e. High T₄, T₃ and TSH levels are seen in thyrotoxicosis
- 35** An 81-year-old man is admitted to hospital with chest pain and a diagnosis of a non-ST elevation MI is made. Which one of the following is the most appropriate immediate medical management?
- a. Aspirin, warfarin and beta-blocker
 - b. Aspirin, clopidogrel, clexane and GTN spray
 - c. Clopidogrel, GTN spray, warfarin
 - d. Clopidogrel, clexane and warfarin
 - e. Clexane, warfarin, beta-blocker and statin

- 36** A 6-year-old girl is brought to her GP who notices that she is scratching incessantly and has become extremely irritable since starting at a new school. On examination, there are tiny papules with linear tracts surrounded by erythema over the web spaces and fingers of both hands that are intensely itchy. Which one of the following treatments should be instituted?
- a. Malathion 0.5% cream
 - b. Flucloxacillin 500 mg
 - c. Conservative management
 - d. Topical aqueous cream
 - e. Cold tar
- 37** A 58-year-old man presents with new-onset chest pain and shortness of breath. ECG shows atrial fibrillation with a rate of 130 bpm. He has no past cardiac history. The most appropriate management is:
- a. Oxygen, IV digoxin
 - b. Oxygen, beta-blockers
 - c. Oxygen, heparin, warfarin
 - d. Oxygen, heparin, IV amiodarone
 - e. Oxygen, heparin and synchronized direct current (DC) shock
- 38** A 70-year-old man presents with chest pain. His ECG shows an acute MI with a new left bundle branch block. On admission, he is given 100% oxygen, morphine, metoclopramide, GTN spray and aspirin. On further questioning, you elicit that he suffered a haemorrhagic stroke 1 year ago. The next most appropriate step in management is:
- a. Coronary artery bypass surgery
 - b. Thrombolytic therapy with streptokinase
 - c. Percutaneous transluminal coronary angioplasty (PTCA)
 - d. Heparin infusion
 - e. Glycoprotein IIb/IIIa inhibitor IV
- 39** A 45-year-old man presents to hospital complaining of progressive inability to see pedestrians on the sides of the road when he is driving. His wife comments that he has gone up shoe and hat sizes. Which one of the following is the most common pathology associated with this disease?
- a. Craniopharyngioma
 - b. Hypothalamic glioma
 - c. Pituitary adenoma
 - d. Parasella meningioma
 - e. Metastatic lymphoma

- 40** Regarding descriptive terms used in dermatology, which one of the following associations is correct?
- a. Macule – a small raised circumscribed area of skin <0.5 cm across
 - b. Vesicle – a small collection of fluid within the skin <0.5 cm across
 - c. Bulla – a small flat area of circumscribed skin change
 - d. Nodule – a small visible and/or palpable lump <0.5 cm across
 - e. Weal – a localized collection of pus within the epidermis
- 41** Which one of the following is NOT a contraindication to thrombolysis following a diagnosis of acute MI?
- a. Previous allergic reaction
 - b. Acute pancreatitis
 - c. Suspected aortic dissection
 - d. Heavy vaginal bleeding
 - e. Hypotension
- 42** Which one of the following facts about DCIS is INCORRECT?
- a. It is a malignant condition
 - b. Of breast cancers, it is the most common
 - c. It is not capable of metastasizing
 - d. It may present with an isolated breast lump
 - e. It does not produce nipple discharge
- 43** Empirical antibiotic therapy for infective endocarditis is:
- a. Flucloxacillin and benzylpenicillin
 - b. Benzylpenicillin and gentamycin
 - c. Gentamycin and flucloxacillin
 - d. Amoxicillin and metronidazole
 - e. Cefuroxime and flucloxacillin
- 44** Which one of the following physical signs is NOT associated with cardiovascular disease?
- a. De Musset's sign
 - b. Quincke's sign
 - c. Kussmaul's sign
 - d. Corrigan's sign
 - e. Cullen's sign

- 45** An 84-year-old woman is brought to hospital after being found collapsed at home. She requires large amounts of fluids to keep her systolic blood pressure above 90 mmHg. She has no fever and her peripheries are cold and clammy. Her medication list includes steroids, amlodipine and aspirin daily, which a neighbour states she has not been taking for some days due to 'stomach flu'. Which one of the following is the most likely explanation for her persistent hypotension?
- a. Intravascular depletion due to vomiting and diarrhoea
 - b. Septic shock due to gastrointestinal infection
 - c. Haemorrhagic stroke due to hypertension
 - d. Vasovagal syncope due to repeated forceful vomiting
 - e. Medication-induced adrenocorticoid axis depression
- 46** A 40-year old man presents to his GP practice with a 3-day history of central chest pain relieved by sitting forward but exacerbated by inspiration or lying flat. He has recently recovered from a viral upper respiratory tract infection and his ECG shows widespread concave upwards ST segment elevation. Examination reveals no positive clinical findings. What is the most appropriate management of this patient?
- a. Non-steroid anti-inflammatory drugs (NSAIDs) and rest
 - b. Troponin and creatine kinase (CK) levels
 - c. Echocardiogram
 - d. Chest X-ray
 - e. Referral to A&E
- 47** Mastectomy is usually the treatment of choice for breast cancer in all of the following situations EXCEPT:
- a. Large tumour >4 cm
 - b. Multifocal cancer
 - c. Centrally located cancer
 - d. Fibroadenoma
 - e. Patient choice
- 48** Which one of the following is NOT a feature of cardiac tamponade?
- a. Bradycardia
 - b. Pulsus paradoxus
 - c. Hypotension
 - d. Raised JVP
 - e. Diminished heart sounds

- 49** Which one of the following statements is INCORRECT?
- a. A bicuspid aortic valve is more likely to calcify than a tricuspid valve
 - b. A patent ductus arteriosus (PDA) is not compatible with life
 - c. A machinery murmur is heard with PDA
 - d. Coarctation of the aorta is associated with Turner's syndrome
 - e. Chronic hypothyroidism predisposes to atherosclerosis
- 50** A 23-year-old man presents to hospital complaining of intermittent headaches, palpitations, sweating, and nausea and vomiting. His blood pressure is 198/124 mmHg and his heart rate is 116 bpm. Routine blood tests are requested along with a 24-hour urine collection for catecholamines. Which one of the following options is the next appropriate step?
- a. CT scan of the abdomen
 - b. Surgical intervention
 - c. Treatment with phentolamine or phenoxybenzamine
 - d. Treatment with esmolol
 - e. Renal artery ultrasonography
- 51** Which one of the following associations is INCORRECT?
- a. Ehlers–Danlos syndrome – mitral valve prolapse
 - b. Turner's syndrome – coarctation of aorta
 - c. Cushing's syndrome –hypertension
 - d. Hypothyroidism – tachycardia
 - e. Noonan's syndrome – pulmonary stenosis
- 52** A 40-year-old woman collapses during an aerobics class and is brought to A&E by ambulance in asystole. She has no past cardiac history of note and has been generally fit and well recently. Which one of the following is the most likely cause of her arrest?
- a. Pulmonary embolus
 - b. Hypertrophic obstructive cardiomyopathy
 - c. Acute MI
 - d. Severe pneumonia
 - e. Pneumothorax

- 53** A 70-year-old man presents to hospital with shortness of breath and pleuritic chest pain. Examination of his back and chest reveals multiple flat segmental brown lesions that are well demarcated and have the appearance of being stuck on to the skin. Which one of the following is the most likely diagnosis?
- a. Malignant melanoma
 - b. Campbell de Morgan spots
 - c. Keratoacanthoma
 - d. Seborrhoeic keratoses
 - e. Basal cell carcinoma
- 54** Where in the clotting cascade does warfarin exert its effect?
- a. Factor 10a
 - b. Factor 2
 - c. Vitamin K
 - d. Vitamin A
 - e. Factor 12
- 55** A 76-year-old woman has a breast lump that has been present for the past 11 months and has been growing in size. It causes no discomfort. It is 5 cm in diameter, overlying skin ulceration and in-drawing of the nipple on that side. What is the most likely diagnosis?
- a. Breast cyst
 - b. Breast abscess
 - c. Locally invasive breast cancer
 - d. DCIS
 - e. Mastitis
- 56** Statins work by competitive inhibition of:
- a. 3-Hydroxymethylglutaryl coenzyme A (HMG CoA) reductase
 - b. Cytochrome P450
 - c. Succinate coenzyme A (CoA) dehydrogenase
 - d. 2-Peroxide dismutase
 - e. 21-Hydroxylase
- 57** Which one of the following drugs has both a treatment and diagnostic role in narrow complex tachycardias?
- a. Atenolol
 - b. Amiodarone
 - c. Adenosine
 - d. Atorvastatin
 - e. Amlodipine

- 58** A 63-year-old man with poorly controlled type II diabetes mellitus is referred to the dermatology clinic with a history of a darkly pigmented rash under both arms with thickened, rough-textured skin. He also complains of some thickening of the skin over his palms, which making him embarrassed to shake hands. Which one of the following cutaneous manifestations is NOT associated with diabetes?
- a. Necrobiosis lipoidica diabetorum
 - b. Acanthosis nigricans
 - c. Lipoatrophy
 - d. Granuloma annulare
 - e. Pyoderma gangrenosum
- 59** A patient with known coronary artery disease was seen 1 week ago by one of your colleagues. He presented with abdominal pains and generalized myalgia. Blood tests carried out at the time show deranged LFTs and an elevated CK of 524 IU/L. Which one of his medications is likely to be the cause of his symptoms?
- a. Diltiazem
 - b. Simvastatin
 - c. Metformin
 - d. Diclofenac
 - e. Enalapril
- 60** Which one of the following cardiac rhythms is 'shockable' (unsynchronized DC shock)?
- a. Atrial fibrillation
 - b. Ventricular fibrillation
 - c. Sinus rhythm
 - d. Pulseless electrical activity
 - e. Asystole