

FRACP part 1 remembered questions 2005

Neuro

A middle-aged woman presents with multiple headaches. Investigations, including CT head and LP, were normal. She requires a lot of analgesia with paracetamol to have relief of pain.

What is the next best treatment?

- A) Slow release tramadol
- B) Morphine
- C) Amitriptyline
- D) Injection of facial muscles with Botox
- E) Benzodiazepine

An elderly gentleman presented with 3 hours of chest pain. Investigations show anterior MI. He is treated with heparin, tPA and morphine. Hours later he becomes increasingly drowsy and confused. His blood pressure increased from 105 before thrombolysis to 180 systolic after, with a HR of 55. On examination there were no focal neurological findings.

What is the most likely explanation for his drowsiness?

- A) Morphine reaction
- B) Hypertensive encephalopathy
- C) Intracranial bleed
- D)
- E)

An elderly man had a TIA a few months ago. He subsequently had a carotid USS that showed 70% stenosis of the right carotid artery.

What is the best treatment for this chap?

- A) Aspirin
- B) Clopidogrel
- C) Aspirin plus clopidogrel
- D) early revascularization
- E) late revascularization

An elderly man presents to hospital with increasing drowsiness. Can't recall if there were neurological findings. His blood pressure was ?elevated?

A CT head showed a bright white blob in the right frontal lobe. There was some oedema around the blob, but no midline shift

What is the best treatment?

- a) Observe
- b) Craniotomy
- c) Dexamethasone
- d) GTN
- e) Mannitol

Middle-aged woman presents with mid-thoracic back pain, decreased pinprick sensation on right side and hyperreflexia and weakness on the left side. MRI was shown and there appeared to be something pressing into the cord and 2 bright vertebrae.

The cause is:

- A) Transverse myelitis
- B) Spinal cord compression
- C) Syringomyelia
- D) Anterior spinal artery thrombosis
- E) AV malformation

(repeat) Diffusion weighted MRI shown – small white lesion at back of the left lateral ventricle. What is the most likely diagnosis?

- A Amyloid angiopathy
- B Perforating artery thrombosis
- C MCA thrombus

A male diabetic, presents with 6/12 of back pain radiating down the leg. He has weakness of extension of the toe and foot but reflexes are present. Nerve conduction studies normal. Increased motor unit size Gluteus medius, tibialis anterior, and flexor digitorum longus.

What is the most likely cause of his back pain

- A L5 radiculopathy
- B S1 radiculopathy
- C Sciatic nerve lesion
- D Peripheral neuropathy
- E Peroneal neuropathy

Elderly woman with L4-5 root problem clinically. Extremely poor reproduction of spinal MRI or CT was shown.

Possibly this showed disc protrusion, but you really had to use your imagination given the "quality" of the image. Which of the following is the most likely cause?

- A Schwannoma
- B Metastatic Ca invasion
- C Disc protrusion
- D Facet joint problem

A 57 yo male smoker with a background of hypertension presents to hospital with sudden onset of right sided weakness. He has no sensory changes and some dysarthria.

Which of the following lesions is the most likely cause for his presentation?

- A MCA stroke
- B Haemorrhagic stroke
- C Ischaemia to a perforating branch of the MCA
- D Internal carotid aneurysm
- E Posterior inferior cerebellar artery

Which diabetic neurological complication is most likely to improve with time?

- A Gustatory sweating
- B Postural hypotension
- C Painful peripheral neuropathy
- D Diabetic amyotrophy
- E Loss of tendon reflexes

A patient has unilateral facial weakness. Which of the following is most suggestive of a peripheral, rather than central, cause?

- A Loss of taste to the anterior 2/3 of tongue
- B Forehead unable to wrinkle on affected side

A long stem painting a picture of spinal stenosis was given. The examiners helpfully state that this patient does indeed have spinal stenosis. Which of the following is most suggestive of a diagnosis of spinal stenosis?

- A Increased pain on prolonged standing
- B Paresthesia on prolonged standing
- C Pain radiating down the back of one leg

Oncology

A patient is given highly emetogenic chemotherapy, and already been given ondansetron. What is the next best treatment of nausea?

- A) Metoclopramide
- B) dexamethasone
- C) Domperidone
- D) Prochlorperazine
- E)

A bit of debate over this question. A man in his 50's develops facial plethora and shortness of breath. No mention made of smoking. He goes on to have a CT chest, radiology shown. Some candidates felt that this showed SVC obstruction, others thought that there was a mass. What is the most likely explanation for these findings?

- A) lymphoma
- B) malignant melanoma
- C) lung cancer
- D) breast cancer
- E) germ cell tumour
- F) Thymoma

(repeat) What is the most likely to cause ACUTE respiratory failure?

- a) Bleomycin
- b) Busulphan
- c) ATRA
- d)
- e)

Woman treated for lymphoma successfully with mantle radiation some years ago. Which of the following is the most likely secondary Ca?

- A Breast
- B Thyroid
- C Lymphoma
- D Lung
- E Leukaemia
- F Sarcoma

I think a bcr-abl FISH picture was shown.

How is the BCR-Abl fusion product produced at the genetic level?

- a) Post-translational fusion of proteins
- b) End to end 5' to 3' fusion of BCR gene and ABL gene
- c) Axon deletion
- d) mRNA from both genes fuses
- e)

Woman with Ca breast, has histology shown with immunohistochemistry - ER/PR negative (i.e. a histological slide with not much colour) , HER2 positive (i.e. a histological slide that is stained bright red). What is the best treatment for this woman?

- a) Trastuzumab + tamoxifen
- b) Trastuzumab + letrozole
- c) letrozole
- d) tamoxifen
- e) Trastuzumab

What measures the activity of cytotoxic chemotherapy drugs?

In-vitro testing

Phase 1 trial

Phase 2

Phase 3

Phase 4

Which of the following is most strongly associated with cervical cancer?

- EBV
- CMV
- HHV8
- VZV
- HPV

Chemotherapy can be complicated by tumour lysis syndrome. Which of the following best describes the biochemical abnormalities associated with this condition?

	<i>K⁺</i>	<i>PO₄</i>	<i>Ca</i>
A	↑	↓	↓
B	↑	↑	↑
C	↓	↓	↓
D	↑	↑	↓
E	↓	↓	↓

Malignancy is often complicated by ascites. Which of the following best describes the aetiology of malignant ascites?

- A Hypoalbuminemia
- B Portal hypertension
- C Congestive heart failure
- D Lymphatic obstruction

Pharmacology

A 16 yo girl is brought into the emergency department by her friends. She is active, hyper vigilant, temperature of 38C, alert. Her skin is hot and dry. Her pupils are dilated. Her friends indicate that she may have 'taken something'.

Which of the following is most likely to be responsible for her presentation?

- a) Pheniramine
- b) GHB
- c) Opioids
- d) Magic mushrooms
- e) Ecstasy (MDMA)

What is the mechanism of action of carbimazole?

- a) Inhibition of thyroid peroxidase
- b) Inhibition of 5-3 de-iodinase
- c) Inhibition of thyroglobulin uptake
- d) Inhibition of iodine uptake

Efalizumab is a MAB targeting CD11a. It is used in the treatment of psoriasis. What is the mechanism of action of this drug?

- a) T-cell mediated response
- b) WBC adhesion prevention
- c) Phagocyte inhibition
- d) Reducing danger signals from the skin
- e)

What is the mechanism of action of sulphonylureas?

- a) Increased insulin secretion
- b) Increased insulin synthesis
- c) Increased binding to the insulin beta-receptor
- d)
- e)

Which of the following drugs is most likely to cause an increase in insulin levels?

- A Orlistat
- B Acarbose
- C Metformin
- D Rosiglitazone
- E Repaglinide

What is the mechanism of action of Zanamivir in influenza?

- a) Neuraminidase inhibition
- b) M2 receptor antagonist/channel inhibitor
- c) Reverse transcriptase inhibitor
- d)
- e)

(repeat) A patient with MRSA sepsis in ICU is receiving a vancomycin infusion. His blood pressure drops and he develops a rash. What is the most appropriate management of this?

- a) Slow down infusion
- b) Change to linezolid
- c) Change to synercid
- d) Give with hydrocortisone premed
- e)

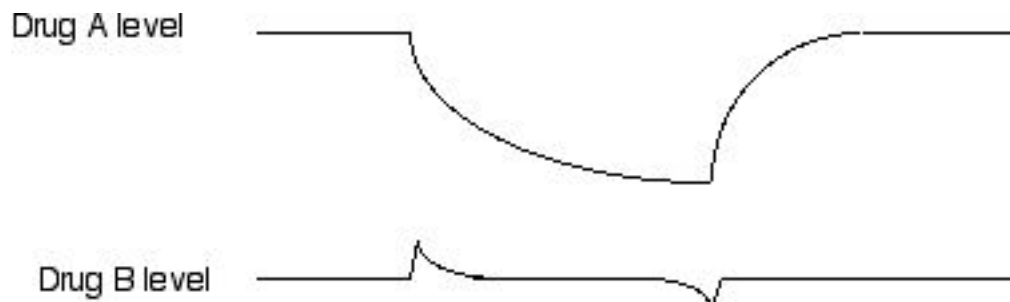
How do steroids directly affect calcium in the pathogenesis of steroid induced osteoporosis?

- A renal effects
- B reduced testosterone
- C reduced androgens
- D direct inhibition of osteoblasts

Which of the following drugs has the highest foetal complications in the 1st trimester?

- A warfarin
- B tetracycline
- C ACE-I
- D NSAID

The following graph shows the levels of drug A and B.



The initial change in the level of drug A occurs at the same time as an increase in the dose of drug B. Which phenomenon best accounts for the interaction between drug A and drug B?

- A Increased gut binding
- B Inhibition of metabolism of drug A
- C Induction of metabolism of drug A
- D Decreased protein binding

(Repeat from 2004 but changed a bit) Monoclonal antibodies to alpha 4 integrin have been developed for clinical use – in which of the following conditions has it been shown to have clinical activity?

- A Parkinson's disease
- B Multiple sclerosis
- C CJD

Oxybutinin is often used to treat incontinence in the elderly. What is the most common side effect of this medication?

- A Dry mouth
- B Constipation
- C Urinary retention
- D Confusion

Bupropion is used for smoking cessation. What is the strongest contraindication to using this medication?

- A IHD
- B Anxiety
- C Depression
- D Seizure disorder

Bioavailabilities of oral tablet vs. IV prep for a drug.

IV 50mg gives you AUC of 25

PO 100mg gives you AUC of 45

Lots of distracting information given on half-life, max conc., time to peak etc.

What is the bioavailability of the oral prep?

- A 20%
- B 40%
- C 50%
- D 90%
- E 96%

Bosentan is used in the treatment of pulmonary hypertension. Which of the following best describes the mechanism of action of this drug?

Phosphodiesterase inhibitor

Endothelin receptor antagonist

Reversal of hypoxia

Thromboxane receptor antagonist

Which of the following is the best treatment for acute alcohol withdrawal?

- A Phenytoin
- B Midazolam
- C Diazepam
- D Naltrexone

Poorly remembered question. Which is the most likely side effect from SSRI's?

- A Hypomagnesaemia
- B Hyponatremia
- C

Rheumatology

An 81 year old has urticaria. Which symptom most suggests urticarial vasculitis?

- A) Dermatographia
- B) Urticarial wheal lasting more than 72 hours
- C)
- D)
- E)

Appalling reproduction of hand X-ray. Some disagreement regarding findings of XR, some people thought there was DIP involvement, others feel there was tufting of phalanges - very limited stem with no clues. What is most likely diagnosis?

- a) RA
- b) Psoriatic arthropathy
- c) Scleroderma
- d) OA
- e) Gout

Total arse of a question!!!

An elderly man presents to you complaining of severe back pain, worse at night, wakes him from sleep, and has been present for some time (at least 2 months). No mention was made of neurology.

What is the most appropriate initial investigation?

- a) ESR
- b) Plain films of spine
- c) Bone scan
- d) CT
- e) MRI

A middle-aged lady presents with pain in the medial aspect of her knee. There is some medial joint line tenderness. Which investigation is most likely to be diagnostic?

- a) CT
- b) MRI
- c) Arthroscopy
- d)
- e)

Awful question in which a middle-aged women with OA has right knee pain not responding to oral NSAIDs. Bilateral knee X-ray shown but DID NOT SAY WHICH SIDE WAS LEFT OR RIGHT. One knee was normal looking one had calcified bit in joint space. Roger Reynolds said this question was therefore impossible! Question was what is next best management?

- a) Referral to dietician for weight reduction
- b) Local steroid injections
- c) Arthroscopy
- d) MRI
- e) Add Cox 2

Repeat question - long stem of middle-aged women with arthropathy, muscular weakness, and coarse skin over palmar and lateral aspects of fingers. ANA +ve, anti-Jo 1 +ve, ESR and CRP raised. What is most likely diagnosis?

- a) Polymyositis
- b) Dermatomyositis
- c) SLE
- d) RA
- e)

A forty year old woman with a long history of SLE on a number of medications, now on prednisone presents to ED with central crushing chest pain. ECG shows anterior ST elevation. ESR 35. Haemoglobin normal. She is given thrombolysis but her blood pressure drops and she dies. What is most likely cause of death?

- A Coronary artery disease
- B Aortic dissection
- C Coronary arteritis/Lippman-Sachs
- D Tamponade/pericarditis
- E Flare of lupus
- F Myocarditis

A patient with long history of RA on methotrexate presents with worsening liver function tests. LFTs were elevated but same as last year. She is overweight, BMI 28, and has type II diabetes. Other investigations show

Anti-Smooth muscle weak positive

ANA +ve

RF +ve

She is scheduled for a liver biopsy, what is biopsy most likely to show?

- a) Chronic active hepatitis
- b) Methotrexate changes
- c) Autoimmune hepatitis
- d) NASH
- e) Cirrhosis

A middle-aged man presents with a hot, painful, red 1st MTP joint. He is diabetic and overweight and his creatinine is 0.2. What is the best initial treatment? (repeat)

- a) Flucloxacillin
- b) NSAID
- c) Prednisone
- d) Colchicine
- e) Joint injection with steroid

Which of the following is most likely to cause a flare of gout?

- a) Red meat
- b) Seafood
- c) Beer
- d) Dairy products
- e) Purine-rich vegies

People with Giant Cell Arteritis often present with jaw claudication and visual loss. On temporal artery biopsy which of the following findings (which explains these symptoms) is most likely to be seen?

- a) Thrombosis
- b) Concentric intimal hyperplasia
- c) Artery dissection
- d) Aneurysm formation and rupture
- e) Transmural inflammatory changes

An elderly lady with neck pain and lateral C-spine X-ray shown. Much controversy as to what X-ray showed. What is most likely diagnosis?

- a) DISH
- b) Posterior ligaments calcification
- c) Facet joint fusion
- d) ?Ossification of C1-C2

Patient with BMI of 36 complains of pain on walking. Knee XR shown and looked like OA. Apart from starting analgesia your management would be:

- A Weight loss
- B NSAIDS
- C Arthroscopy
- D Steroid injection

Another patient with OA and history of pain on weight bearing. You are told XR is normal and that there pain on the medial side on examination and an effusion. Next investigation is:

- A Gallium scan
- B Bone scan
- C MRI
- D CT
- E Arthroscopy

Haematology

Which condition is least likely to be responsive to plasmapheresis?

- A CIDP
- B TTP
- C MPGN secondary to c3 nephritic factor
- D Myasthenia gravis
- E Multiple sclerosis
- F Cryoglobulinaemic renal disease

A patient presents with DVT above the knee. Which finding at the start of anti-coagulation would most strongly indicate life long treatment with warfarin?

- A) Factor V leiden heterozygosity
- B) lupus anticoagulant
- C) no obvious precipitant
- D) prothrombin mutation of some kind
- E) Antithrombin III deficiency

A man is given IV heparin for large DVT/PE. 4 days later, blood tests show that his platelets have reduced from 160 to 40.

What immediate treatment needs to be given?

- A) Dalteparin
- B) Observe
- C) Danaparoid
- D) Warfarin
- E) Continue heparin

Most common adverse event resulting directly resulting from blood transfusion of RBC's

- a) Transfusion related lung injury
- b) Febrile, non-haemolytic reaction
- c) Febrile, haemolytic reaction
- d) Hepatitis B infection
- e)

Transfusion of which of the following blood products is most likely to result in sepsis?

- a) FFP
- b) Cryoprecipitate
- c) Packed RBC's
- d) IVIg
- e) Platelets

Man with plts of 1050 and normal Hb and WCC. Blood film shown. What is the diagnosis?

- A CML
- B Essential thrombocythemia
- C Myelofibrosis
- D Occult malignancy

An elderly woman had a colectomy 9 days ago for colonic cancer. She was transfused 2U of packed red cells intraoperatively. Now, she is anaemic (Hb 80) with normal MCV. A blood film is shown with spherocytes. Increased reticulocytes. Bilirubin is up. What is the cause of her anaemia?

- A Delayed transfusion reaction
- B Iron deficiency
- C Perioperative blood loss
- D Megaloblastic anaemia
- E Red cell aplasia

Man has a splenectomy for ITP. He still has occasional bruising but not other symptoms. Plt = 40. What is the most appropriate management?

- A Danazol
- B IVIG
- C Observe
- D Prednisone
- E Plasmapheresis

A 65-year-old man presented to hospital with and MI. He was managed appropriately in CCU. Coagulation studies reveal an increased APTT 100, which partially corrects with mixing to 58. The TCT is 200. INR is normal. Reptilase time normal. Thromboplastin time prolonged. What is the most likely cause?

- A heparin
- B low molecular weight heparin
- C lupus anticoagulant
- D factor deficiency
- E von Willebrand

(repeat) A 60 yo male smoker presents to you. He is noted to be plethoric. Investigations of which there are a multitude ! include..

Elevated red cell mass

Hb 205

Haematocrit 0.57

High normal plasma volume

Erythropoietin 49 (N is >48)

What is the most likely cause for his elevated Hb?

- A COPD
- B Polycythaemis rubra vera
- C Dehydration
- D Hb with an avid affinity for oxygen

A 36-year-old man has a blood test, and is found to have a microcytic anaemia with Hb 111. Results shown consistent with beta thalassaemia

What is the next step?

- A Partner counselling and testing
- B Fe therapy
- C Blood transfusion

What is the main receptor that Von Willebrand Factor binds to on platelets?

- A Glycoprotein IIb IIIa
- B Ristocetin
- C Glycoprotein Ib IX V
- D ADP

Renal

A 70 yo man developed Wegener's Granulomatosis 8 years ago, this was treated with cyclophosphamide. Now he is well, on methotrexate maintenance therapy. Routine MSU shows red blood cells.

What is the next best test to investigate his microscopic haematuria?

- a) Renal biopsy
- b) Add prednisone
- c) Cystoscopy
- d) Repeat ANCA
- e)

(repeat 2004 and 2003?) A patient with chronic renal failure on EPO now presents with anaemia. Hb 80, MCV 109, reticulocytes 15 (low). Most likely cause?

- A Red cell aplasia
- B Myelodysplasia
- C Non-neutralizing antibodies
- D Iron depletion

A man presents to the emergency department with progressive itch, loss of appetite, lethargy and tiredness. Initial bloods show a Cr of 0.40 and K of 7.0. ECH shows peaky T waves.

What is the most important treatment?

- A Calcium gluconate
- B Frusemide
- C Insulin
- D Salbutamol
- E Haemodialysis

What is the best effective measure to treat hyperphosphataemia in patients with chronic renal failure?

- A Low phosphate diet
- B Oral phosphate binders
- C Parathyroidectomy
- D Calcitriol

What is the mechanism of action of C3 nephritic factor?

- a) Increase in C3 "tick-over"
- b) Alternative pathway activation
- c) C3 convertase stabilisation
- D)
- E)

65-year-old presents randomly to hospital with history of itch, and generally feeling crook. BP = 165/80. No oedema. History of perforated appendix and cholecystectomy.

Bloods given:

Cr = very high

K = 5.5

U = 45

PO₄ = 2.4

Ca = 2.1

Kidney USS showed kidneys 8.8cm with no evidence obstruction.

What is the best management?

- A Elective HD
- B Acute HD
- C Elective PD
- D Acute PD
- E Hemofiltration

(? Repeat) 25-year-old male with 2 episodes of hematuria, the second one was 6 days after an URTI. Normal electrolytes, liver etc

What is the most likely diagnosis?

- A IgA nephropathy
- B HSP

A 24yo man is referred for investigation of microscopic haematuria. Which of the following is the strongest indication for renal biopsy?

- A 90? Granular? Red blood cells on urinalysis
- B BP 145/90
- C Proteinuria of 0.9g/24hours
- D Cr 0.105

Person with hyperkalemia and peaked T waves on ECG. Patient is oliguric. What is the first thing you do?

- A Ca gluconate IV
- B Dextrose / insulin infusion
- C Salbutamol nebs
- D ? HCO₃

Which of the following is the most urgent indication for dialysis?

- A K = 6.1
- B Pericarditis
- C Urea > 50
- D Peripheral neuropathy
- E Oedema

Biggest predictor of mortality in hemodialysis

- A Low albumin
- B High PO₄
- C Anaemia
- D Urea reduction ratio
- E Serum aluminium

Most effective treatment for high PO₄

- A Low PO₄ diet
- B Po₄ binders
- C Parathyroidectomy
- D Low protein diet

IgA nephropathy, but patient has normal Cr. Which of the following is most predictive of this patient developing ESRF?

- A IgA level
- B Proteinuria
- C Cr clearance

Drugs are compared in a table as below.

	<i>Drug A</i>	<i>Drug B</i>
Half life	?	?
Protein binding	Low	High
Hepatic clearance	Low	High
Molecular weight	320	350
VD	5	72
Renal CI	?high	?low

Why would serum levels of drug A be markedly more reduced compared to drug b by haemodialysis. Differences in:

- A Half life
- B Hepatic clearance
- C Molecular weight
- D Protein binding
- E VD

A diabetic patient has 1+ proteinuria on protein dipstick. What is the best test to confirm diabetic nephropathy

- A 24hr urine protein
- B Albumin Cr ration
- C Urine albumin

Random Crap

What is the main purpose of the ethics committee?

- A To reduce bias
- B To check methodology
- C To provide adequate information to subjects
- D To make sure patients are safe
- E To ensure that the scientific basis of the study is robust

Which of the following is likely to prolong the survival of normal lab mice?

(Not kidding.)

- A Vitamin supplements
- B Vaccination
- C Giving extra food
- D Calorie deprivation
- E Exercise
- F Anti-oxidants

Geriatrics

A 91 yo woman who lives in a rest home with severe dementia develops redness to the skin of her heels. The rest of the examination is normal, including her sacrum.

What is the best treatment to reduce the chance of pressure sore development?

- A Raise legs off the bed
- B Elevate head of bed to 45 degrees
- C Urinary catheterisation
- D Regular turning

Which is the likely finding in aging of muscle in a healthy old person?

- a) Type 1 fibre atrophy
- b) Type 2 fibre atrophy
- c) Fat deposition
- d) Lymphocyte infiltration
- e)

Old man with multiple previous strokes or Alzheimer's with severe dysphasia/aphasia. Presents after having breakfast. Drooling and cough but not SOB, pointing to his sternum. His rather stupid daughter rings you because she doesn't know what's wrong. Which of the following is the most likely cause of his distress?

- A Oesophageal obstruction due to foreign body
- B Pneumonia
- C Ulcer with stomach outlet obstruction
- D MI
- E Further Stroke

Incontinence in older people is most commonly due to the following? (no mention of sex affected)

- A Stress
- B Urge
- C UTI
- D Delirium

The infamous walking stick question. An old man with R hip pain due to OA presents to your clinic. You prescribe him a walking stick. Which of the following is the best instruction on how this man should use his walking stick (note that consulting a physio, or inserting it into the person who wrote the question were not options)

- A Hold in R hand, move at same time as L leg
- B Hold in L hand, move at same time as R leg
- C Hold in R hand, move at same time as R leg
- D Hold in L hand, move at same time as L leg
- E Hold in R hand, move stick then both legs

Can't remember the exact stem. Something about 'which of the following is consistent with normal changes in the aorta of a healthy ageing person' or something.

	Diameter	Velocity of pressure wave	Distensibility
A	↑↑	↑↑	↓
B	↔	↑↑	↓↓↓
C	↑↑	↓↓	↑↑
D			
E			

An elderly person with dementia has visual hallucinations. Which of the following is the most likely diagnosis? (this may have been in a table format, can't recall)

- A Pick's disease
- B Alzheimer's
- C Lewy Body Dementia
- D Multi-infarct dementia

Gastroenterology

Which of the following best predicts a sustained virological response/favourable treatment outcome in the treatment of hepatitis C with ribavirin?

- A Viral genotype
- B Viral load
- C Portal Fibrosis
- D Gender
- E ALT

A patient with known hepatitis C develops palpable purpura. Cryoglobulins are positive.

What is the best treatment for the purpura?

- a) Pegylated interferon/ribavirin
- b) Prednisone plus ribavirin
- c) Cyclophosphamide plus prednisone
- d) Ribavirin alone
- e) Observe

A patient has gastroscopy that shows intestinal metaplasia, with severe dysplasia.

Show picture of very blurry oesophagus, which seems to be bright red distally

Which of the following is the best management?

- a) Re-scope in 6 months
- b) High dose PPI
- c) Cryotherapy
- d) Laser therapy
- e) Surgery

Most important stimulus of gastric acid secretion?

- a) Histamine
- b) Gastrin
- c) Somatostatin
- d) ACh
- e) Calcium

Chronic diarrhoea and anaemia. Blood tests show IgG anti-endomysial levels high but IgA endomysial low and anti-gliadin low. What is your next test?

- A Faecal fat 3 days
- B IgA level
- C Jejunal biopsy
- D Faecal microscopy and culture
- E Tissue transglutaminase

A patient is going to receive CHOP for a haematological malignancy. He has known chronic hepatitis B, HBsAg +, HBeAg -, HBV DNA-, LFT's normal. What is the most appropriate course of action?

- A Monitor LFT's
- B Treat Hep B prophylactically
- C Reduce dose of chemotherapy
- D Monitor E antigen
- E No management change necessary

A patient with chronic hepatitis B with multiple previous flares over several years HBeAg-, LFT's are deranged: BR 55, GGT 450, ALP 300, AST 300 and ALT 450.

What is the most likely cause?

- A YMDD mutant
- B Pre-core mutant
- C Alcohol
- D Delta co-infection
- E Hepatoma
- F Gallstones

Which of the following is the strongest indication for antibiotic prophylaxis?

- A Banding varices
- B Polypectomy on colonoscopy
- C Colonoscopy in patient with TKJR
- D PEG insertion
- E ERCP

Which of the following is the best prophylaxis (most likely to reduce risk of rebleed) for bleeding varices in a patient who has already been banded once for a bleed

- A Propranolol
- B Banding
- C Nitrates
- D Sclerotherapy
- E TIPS

In which of the following conditions is there an inability to cleave B12 from R-protein?

- A Helicobacter pylori infection with atrophic gastritis
- B Crohn's
- C Terminal ileum deficiency
- D Pancreatic enzyme deficiency
- E Pernicious anaemia

Poorly remembered question on management of Crohn's during pregnancy. Which is the worst drug?

- A Azathioprine
- B Methotrexate
- C Prednisone
- D 5-ASA
- E Budesonide

Which of the following conditions characteristically shows periportal fibrosis on liver biopsy

- A Paracetamol OD
- B Alcoholic liver disease
- C Budd Chiari
- D Primary Biliary Cirrhosis
- E Chronic viral hepatitis

Elderly woman with dysphasia to solids and liquids. Manometry tracing shown with obvious achalasia (sphincter fails to relax, resting pressures high, poor propagation) (picture lifted directly from Deltamed course notes (dirty Aussies!). What is the most likely diagnosis

- A Nutcracker oesophagus
- B GORD
- C Achalasia
- D Oesophageal obstruction

Infectious Diseases

Repeat question... a 30 yo woman is given cephalexin for an uncomplicated urinary tract infection. Several days later she is still symptomatic. Which is the most likely cause for this?

- a) Antibiotic resistance
- b) Lack of compliance
- c)
- d)
- e)

Most common cause for diarrhoea in a returned traveller?

- a) Campylobacter
- b) Enterotoxigenic E. Coli
- c) Shigella
- d) Salmonella
- e) Yersinia

What is the name of the process when viral DNA is processed to form mRNA?

- a) Reverse transcription
- b) Transduction
- c) Conjugation
- d) Translation
- e) Transcription

A renal patient is starting on haemodialysis and receives a full course of 3 hepatitis B vaccines. However, two weeks after the last dose he still has a negative antiHBs response. Which of the following is the most appropriate response?

- a) Repeat vaccination with Freund's adjuvant
- b) No further vaccination
- c) Repeat test in 6 weeks
- d) Repeat course of 3 vaccinations
- e) Give one extra vaccination

Hemodialysis patient is being immunised against HepB. After 3 does the antibody levels are still < 10. What do you do?

Give further immunisation

Give Hep Ig

Recheck levels in 3 months

No further action

Which of the following is the most absolute contraindication to the influenza vaccine?

- a) Recent immunisation with 'Pneumovax' pneumococcal vaccination
- b) Egg anaphylaxis
- c) Pregnancy
- d) Immunosuppression
- e)

An oyster farmer presents with a nasty cut on his hand, which leaks serous exudate. He has many cuts on his hands from previous injuries.

Which of the following is the most likely to reveal the diagnosis?

- a) Send a swab for viral serology
- b) Send a swab for acid-fast stain
- c) Send a swab for gram stain
- d) Viral PCR
- e) Fungal staining

Oyster farmer presents with hand pain. Swollen 2nd and 3rd MTPJ and wrist. He had a history of having cut his hand and had had serous exudate. Otherwise well. What do you want on the joint aspirate?

- A viral PCR
- B fungi
- C AFB
- D Gram stain and culture

A young person returns from a nice holiday in Thailand. He has fever, non-specific maculopapular rash, pain behind the eyes, and the fever was present on one day, then absent for a day, then came back again. No mention of meningism. Bloods were shown but can't remember what. Which is the most likely cause for his symptoms?

- a. Leptospirosis
- b. Dengue
- c. Schistosomiasis
- d.

A young woman recently returned from Bangladesh where she spent ?a month? on a missionary visit. She develops a febrile illness (>40 degrees) and crampy abdo pain. Bloods were OK. ?was constipated. Which of the following is the most likely cause of symptoms?

- A Typhoid
- B Malaria
- C Dengue

25 year old with pyelonephritis and treated for 5 days with cephalexin. Still growing enterococcus. What is the reason?

- A Antibiotic resistance
- B Poor penetrance
- C Poor compliance
- D Too short a course
- E Oral instead of IV

Why don't we use gentamicin for CNS infections?

- A Risk of ototoxicity
- B Bacterial resistance
- C Does not enter CNS
- D Nephrotoxicity

ICU Baby

A middle-aged woman presents to hospital after a car accident. She sustained a fracture to the shaft of her femur. She is admitted to the ICU, can't recall if she was taken to theatre. Several hours after presentation she suddenly becomes short of breath. Her Central Venous line indicates increase in RV and transthoracic echo shows that LV pressure is normal.

Show CXR-Looks fluffy with bilateral alveolar pattern

What is the most likely explanation for her shortness of breath?

- a) ARDS
- b) PE
- c) CHF
- d) Fat embolus
- e) Pneumonia

(repeat) A 47 yo woman with faecal peritonitis is admitted to the ICU and intubated. She can't be weaned off the ventilator, developing hypercapnoea. Nerve conduction studies show an axonal sensorimotor neuropathy. Normal CK. What is the most likely reason that this patient is difficult to wean from ventilation?

- A ADPN/Guillain Barre
- B Critical illness neuropathy
- C Too much muscle relaxant
- D Epidural abscess
- E Critical illness myopathy

Patient who has return of circulation 17 minutes after VF arrest. ECG showed little ST elevation, temp = 34 degrees. Pupils are fixed. What would you do acutely?

- cool patient to 33 degrees
- brain stem testing to confirm brain death
- CT head
- Thrombolysis
- Angioplasty

Dermatology

Efalizumab is a monoclonal antibody against CD11a. It is used to treat psoriasis. Which of the following best describes the mode of action of this drug?

- A Depletion of T cells
- B Decrease in the danger signals from T cells? Less tissue injury signals
- C Less extravasation of T cells from blood vessels
- D Decrease in endothelial chemokines
- E Less macrophage activation

Strange urticarial rash shown. What is most predictive of vasculitic urticaria?

Dermographia

Lack of response to anti-histamines

Angio-oedema

Presence > 72 hours

A man with at least one year's history of extremely itchy rash on elbows and buttocks. Picture shown of arse, looks like dermatitis herpetiformis. What is the investigation most likely to be diagnostic?

- A Antiendomysial antibodies
- B Jejunal biopsy
- C IgA level
- D Skin biopsy with immunofluorescence from the lesion
- E Light microscopy of uninvolved peri-lesional skin (Not sure about which had IF and which had light microscopy)

Cardiology

A man in his 40's usually takes a thiazide for hypertension. He presents with atypical chest pain, and started on simvastatin. Cardiac investigations during this presentation include a normal troponin, raised CK. His chest pain continues, so he is started on diltiazem. 3 weeks later the pain was much worse, with muscle aches. repeat CK was 30,000. What is the likely cause for his myopathy?

- a) Cardiac ischaemia
- b) Drug reaction to diltiazem
- c) Statin myositis
- d) Hypothyroidism
- e) Hypokalaemia

A patient with multiple risk factors for IHD presents for pre-operative assessment. He is diabetic.

Which of the following medications is best to reduce his perioperative mortality?

- A ISMN
- B Diltiazem
- C Metoprolol
- D Aspirin

Patient with CHF. Already on ACE inhibitor and frusemide. Presents with increasing shortness of breath. On examination, chest was clear. CXR normal. What is the best treatment to add?

- a) Spironolactone
- b) Metoprolol
- c) Increase frusemide
- d) Add ARB
- e)

An elderly man originally sees his GP for progressive shortness of breath on exertion. One day while running for the bus, he collapses and presents to the ED with the following ECG...

?LV strain

?ST elevation in anterior leads with deep lateral T wave inversion (disagreement from candidates whether this was LV strain or septal MI)

Which of the following represents the best initial management strategy?

- a)Thrombolysis
- b)Primary angioplasty
- c)Observe
- d)Heparin
- e)

An older chap presents to hospital with chest pain. Investigations show that he has an anterior ST elevation MI with elevated Trop and CK. The ECG also shows inferior Q waves. He responds well to thrombolysis, with resolution of the ST changes and pain.

We can't remember if there was a bundle branch block.

What is the next best investigation?

- a)Exercise ECG
- b)nothing ?
- c)Exercise stress echo
- d)Cardiac catheter
- e)Radio nucleotide perfusion scan
- f)Transthoracic echo

Patient has AR. Cardiac output of 7.5L, HR 75, EDV 250mL, ESV 100mL

What is the regurgitant fraction

- a) 33%
- b) 50%
- c) 66%
- d) 4.799%
- e)

Man with aortic regurgitation has the following values measured in the Cath lab. Cardiac output 7.5L/min. Heart Rate 75 bpm. EDV 200mL, ESV 50mL. What percentage of blood ejected is regurgitant through the aortic valve?

- a. 50%
- b. 33%
- c. 20%
- d. 25%
- e. 10%

85 year old collapsed after running for the bus. Has history of HTN (takes felodipine) and high cholesterol. Has history of becoming SOB over last few months. On exam BP = 125/90, soft systolic murmur and chest clear. ECG showed LVH with strain pattern (ST elevation V1-V3 and depressed laterally)

Management:

coronary angio

thrombolysis

observe

heparin

angioplasty

CHF patient but clear lungs. SOB on mid exertion. On enalapril and furosemide and aspirin. Echo shows shortening, impaired LV and mild cardiomegaly. What do you give?

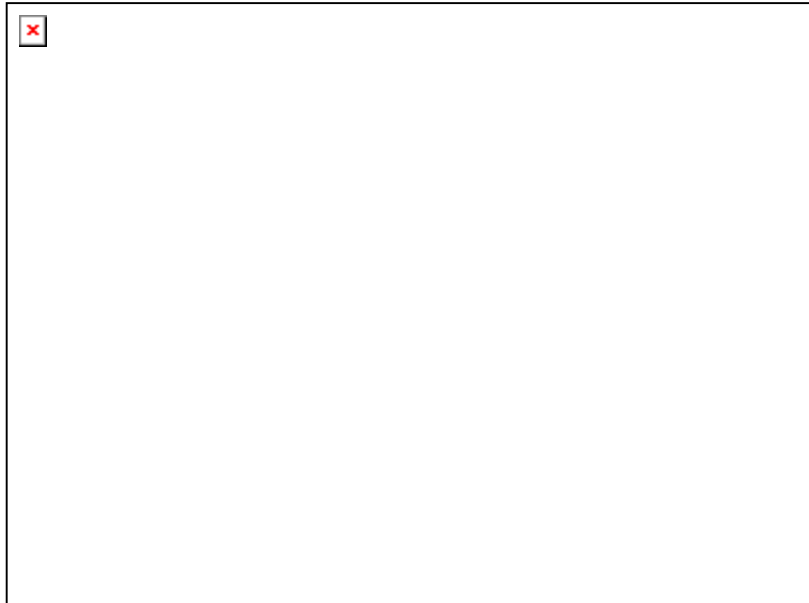
Beta-blocker

ARB

Increase the furosemide

Spirolactone

A pressure-volume graph is shown for a patient before and after they are commenced on an infusion of a drug. Which of the following drugs is most likely to produce this graph?



- A Nitrates
- B Beta blocker
- C Isoprenaline
- D Noradrenaline
- E Metaraminol

An elderly woman takes a statin, metoprolol, and amitriptyline. You are investigating her for collapse, and organise a Holter monitor. Which of the following findings on Holter monitor is the least likely indicator for Electro-physiology study?

- A Prolonged QT
- B Sinus bradycardia
- C Second degree heart block during sleep
- D Paroxysmal AF with a rate of 110/min
- E Polymorphic VEPB's

Endo

Which is the most important reason for diabetic control deteriorating over time in Type 2 diabetics?

- a) Obesity
- b) Increasing insulin resistance
- c) Non-compliance
- d) Decrease in insulin production
- e)

Diabetic neuro-arthropathy is most likely to affect which joint?

- A Knee
- B Hip
- C First MTP
- D Mid-foot
- E Heel

A 30-year-old woman with striae, weight gain and obesity presents to you for investigation. She had a whole raft of investigations, including a low cortisol and low ACTH.

What is the most likely cause for her presentation?

- A Pseudocushing's
- B Factitious Cushing's
- C Adrenal adenoma
- D Ectopic ACTH
- E Cushing's disease

A woman on bromocriptine for microadenoma investigated several years ago discovers that she is 6 weeks' pregnant. What is the most appropriate course of action?

- A Stop bromocriptine and monitor
- B Increase dose of bromocriptine
- C Change to cabergoline
- D Continue bromocriptine
- E Abort foetus

Patient presents with abdominal pain and weakness/unwellness. K⁺ 2.9, Cl 112, HCO₃ 15 (low), Na 144. What is the most likely diagnosis?

- A Vomiting
- B Lactic acidosis
- C Salicylates
- D DKA
- E RTA

An elderly woman lives in a rest home and rarely goes outside. She is thin, and doesn't eat much. She suffers from GORD. She had a DVT several years ago. Can't recall if she had a fracture before, but for some reason she was investigated for osteoporosis; bone scan confirms T scores -2.5.

Which of the following is the best initial treatment for her osteoporosis?

- A Alendronate
- B Raloxifen
- C Vitamin D
- D Zolendronate
- E Calcium supplement

? repeat? Thyroid scan no pain no tracer ?likely cause

A patient presents with blood tests and symptoms suggestive of thyrotoxicosis (High T₄, low TSH). They have no neck pain. Go on to have a thyroid scintiscan.

Picture shown, absolutely no uptake of contrast in thyroid, all you see in sternal notch marker

Which of the following is the most likely Dx?

- A Factitious/exogenous thyroxine?
- B Grave's disease
- C Silent thyroiditis
- D Hashimoto's thyroiditis

A patient is already on 40mg of atorvastatin. Lipid levels are given, the main abnormality was an increased triglyceride.

What is the best management change?

- A Increase atorvastatin
- B Add bezafibrate
- C Add nicotinic acid
- D Add metformin

Poorly remembered. A stem describes a person with hyperlipidaemia. They give TC, TG and HDL. You need to work out the LDL for yourself.

Which is the most likely biochemical abnormality in combined familial hypercholesterolaemia?

- A LDL receptor mutation
- B 3 long enzyme receptor deficiencies
- C Apo-b 100 mutation

A patient has had pituitary radiotherapy for a non-functioning adenoma 1 week previously. He has some blood tests – these essentially showed virtually all anterior pituitary hormones to be very mildly below normal range (TSH, T4, T3, ACTH, GH, LH, FSH, testosterone, cortisol). What is the most appropriate next management step?

- A Give testosterone
- B Give steroid
- C Give GH
- D Give thyroxine
- E Observe

Poorly remembered question about Paget's management – 2 bisphosphonate options (alendronate and etidronate) plus others.

Indian lady, middle aged, complaining of hip pain, moved to New Zealand recently. Blood tests showed low Ca, moderately high PTH. What is the most likely cause of her problem?

- A Hypoparathyroidism
- B Vit D deficiency
- C Poor dietary Ca intake

Epidemiology

A condition has a prevalence of 1/1,000,000 (may have been 1/100,000)

A new test has a sensitivity of 95% and a specificity of 90%. What is the PPV of this test

- a) 0.01%
- b) 0.05%
- c) 0.1%
- d) 0.5%
- e) 1%

What is the positive predictive value of a test if the sensitivity of the test is 95%, specificity 90% and prevalence 1/100,000?

- a. 0.01
- b. 0.1
- c. 1
- d. 0.5
- e. 0.05

Genetics

You see a patient in clinic who has HOCM. You wish to address the genetic risk to his family. Which of the following strategies is most appropriate?

- a) Explain to patient the genetic basis of the disease
- b) Ask patient to contact family members and explain the risk
- c) Call the GP's of each family member so the GP can convey the information
- d) Contact the family members yourself
- e)

A young woman is diagnosed with hypertrophic cardiomyopathy. As the physician caring for this patient what would you do in terms of advice regarding the risk to her family?

- a. Advise the patient regarding genetic inheritance
- b. Advise the patient to tell her family
- c. Tell the patient's GP to test 1st degree relatives
- d. test the patient for the gene

Genetics question - very complicated. 2 loci. One has a particular polymorphism which is a specific mutation producing a phenotypic disease. The other is closely linked, however in this locus, the allele frequency is the same in the diseased population and in the normal population. Which of the following would not explain this?

- a) A genetic bottleneck (the founder effect)
- b)
- c)
- d)
- e)

Genetic tests can be useful in certain situations from medical, psychological, and other perspectives. In which of the following conditions is genetic screening test most medically indicated:

	<i>Condition</i>	<i>Premorbid phenotype</i>	<i>Treatment available</i>
A	FAP	Yes	Yes
B	HNPCC	No	Yes
C	Haemochromatosis	No	Yes
D	Huntington's	No	No
E	Alzheimer's (Apo E4)	No	No

Which of the following deletions is most likely to alter the amino acid sequence?

C C G A C T A T T
1 2 3 4 5 6 7 8 9

- A 678
- B 567
- C Change at position 4
- D Change at position 5
- E Change at position 6

Which of the following is the most likely phenotype of the karyotype shown below. (47 XXY shown)

- a) Normal female
- b) Normal male
- c) Intersex state
- d) Testicular atrophy
- e)

(repeat) What does a transcription factor do?

- a) Initiate translation of protein
- b) Regulate binding of RNA polymerase
- c) Regulate binding of DNA polymerase
- d) Polyadenylation of mRNA
- e) Generates RNA template

A patient with recurrent pancreatitis presents for investigation. He has no siblings, but his father, uncle and grandfather (i.e. two preceding generations of his family) also had episodes of pancreatitis. Showed CT of nasty inflamed-looking pancreatitis. What is the most likely cause?

- A Cystic fibrosis
- B Hereditary pancreatitis
- C Alcoholism

Immunology

Which cells most rely on making extracellular products to fulfil their role in killing organisms?

- a) Lymphocytes
- b) Macrophages
- c) Phagocytes
- d) Eosinophils
- e) NK cells

Respiratory

Male, ex-dock-worker, currently works in construction, presents with SOB. The following CT is done. What abnormality is demonstrated?

insert CT showing two CT slices. First one pretty clear, second one had pleural plaques at the posterior aspect of chest. Was some minimal honey combing too.

- A Silicosis
- B Emphysema
- C Berylliosis
- D Pleural plaque asbestos related disease
- E Asbestosis

Which of the following interventions is most likely to result in a patient stopping smoking permanently?

Individual counselling

Nicotine replacement

Brief advice from doctor

Advice from a trained smoking cessation practitioner

Most likely to prevent the need for intubation in a patient with an exacerbation of COPD?

- A CPAP
- B BIPAP
- C Bronchodilators
- D Oral steroids
- E Antibiotics

Man in his 30's presents with progressive shortness of breath.

Show CXR of hilar masses/adenopathy

Calcium 3.01

PO4 0.9

Protein electrophoresis N

Platelets low

Cr 0.32

What is the most likely cause of the raised calcium?

- A PTHrp
- B Ectopic PTH secretion
- C Raised 1-25 OH vitamin D

A man in his 50's is short of breath. He has lung function tests, which are given in every last detail with much distracting information taking up a whole page.

Essentials included low FEV1, DLCO<30, lots of gas trapping, high RV, high TLC. No significant reversibility after bronchodilators. Lung volumes by plesmography double those of gas inhalation/

What is the likely cause of this man's shortness of breath?

- A Emphysema
- B Bronchiectasis
- C Asthma
- D Chronic bronchitis
- E ILD

Young man, 22, complains of daytime sleepiness. He was a bit overweight but not very. A huge, detailed sleep study that was very hard to see due to poor quality of reproduction took up much of the page. Some of us thought he had long periods of desaturation. What is the likely Dx?

- A OSA
- B Restless leg syndrome
- C ? Periodic limb jerk sleep disorder
- D Narcolepsy

Which of the following is most likely to be improved by pulmonary rehabilitation?

- A Mortality
- B Quality of life
- C FEV1
- D Peak flow
- E 6 minute walk

Which of the following is most likely to have the most symptomatic benefit for COPD?

- A Salbutamol
- B Ipratropium bromide
- C Salmeterol
- D Tiotropium

Stats

A screening test in hospital gives a sens of 90% and a spec of 90%. Using the same test in the community, which of the following is least likely to change

- a) PPV
- b) Risk benefit balance for the patient
- c) NNT
- d) Cost effectiveness
- e) Relative risk

A treatment is trialled for secondary prevention of cardiovascular events. In the treatment group there are 200 events, in the placebo events there are 400 events. If this study were repeated in the community on the setting of primary prevention, which would be the least likely to change?

- A Cost benefit
- B Absolute risk reduction
- C Relative risk reduction

Which of the following best describes specificity?

- a) The number of people with a positive test who have the disease
- b) The number of people with a negative test who do not have the disease
- c) The number of people without the disease who have a negative test
- d) The number of people with the disease who have a positive test
- E)

(Repeat) 5% of the population will develop Alzheimer's disease over a 10-year period. 10% of the population have at least 1 ApoE4 allele. Those with at least one ApoE4 allele have 3x the risk of developing Alzheimer's disease compared to those without.

What proportion of those developing Alzheimer's will have at least one ApoE4 allele?

- a) 70%
- b) 25%
- c) 33%
- D)
- E)

Psych

A patient has recently attempted suicide. Which of the following best predicts the likelihood of another suicide attempt?

- A Poor social support
- B Number of paracetamol tablets taken
- C Family history of suicide
- D Previous parasuicide
- E Recent FRACP part 1 examination

Panic disorder is most commonly associated with which of the following?

- A Major depressive disorder
- B Anxiety
- C Post traumatic stress disorder
- D Benzodiazepine dependence
- E Somatization/? Abnormal illness behaviour

A 24 yo man with schizophrenia lives in a hostel. He is on depot haloperidol. He presents to you with slow, writhing choreoathetoid arm movements. What is the most likely cause?

- A) Akathisia
- B) Tardive dyskinesia
- C) Drug induced Parkinson's disease
- D) Amphetamine abuse
- E)

A middle-aged man drinks a lot of alcohol. He is an accountant by training however he lost his job 12 months ago. His relationship with his wife and child broke up 1 month ago. He now sees you and says that he is feeling suicidal and his mood is very low. No mention about the duration of these symptoms or relation of onset of symptoms to above events (which would have actually made answering the question possible instead of just having to guess major depression because that's always the answer). Which of the following is his diagnosis?

- a) Major depressive episode
- b) Adjustment disorder
- c) Alcohol-related mood disorder
- d) Anxiety disorder
- e) Tobacco withdrawal