

Remembered Questions FRACP Exam 2003

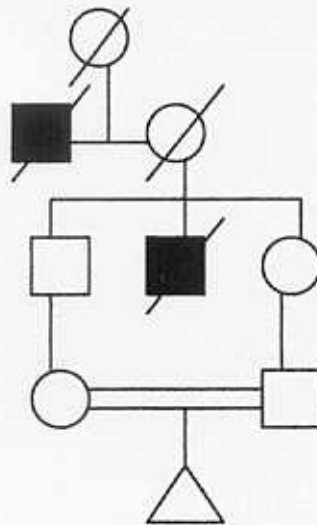
Paper 1.

1. A man is on paroxetine long term for depression. He is to be started on quinidine for an arrhythmia. Quinidine is a strong inhibitor of CYP 2D6. Paroxetine is metabolised by the cytochrome enzymes 3A4, 2D6 and 1C9. Which of the following polymorphism combinations is likely to result in the greatest elevation in plasma levels of paroxetine?

	1C9	2D6	3A4
a)	high	low	high
b)	low	low	high
c)	high	low	high
d)	low	high	low
e)	high	high	high

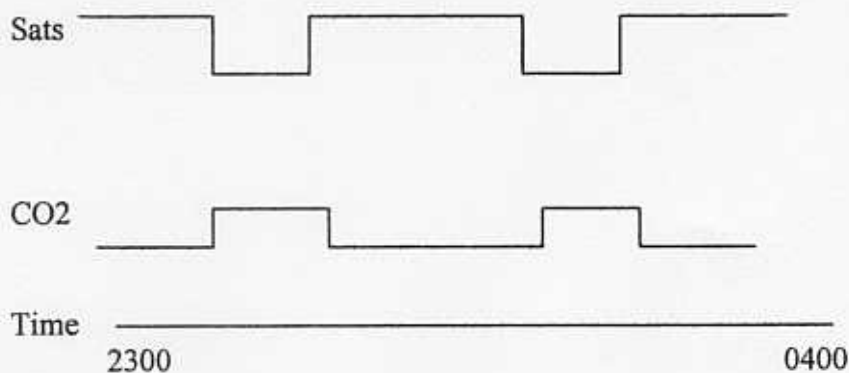
2. A 21 year old recent immigrant from India presents with malaise, fever and weight loss over 4 weeks. CXR showed a moderate right pleural effusion but clear lung fields. What is the investigation most likely to establish the diagnosis?
- a) Mantoux
 - b) Pleural biopsy
 - c) Pleural fluid tap
 - d) Bronchoscopy
 - e) Induced sputum
3. What is the most appropriate medication to use for the relief of nausea in a patient with Parkinsons Disease?
- a) Promethazine
 - b) Prochlorperazine
 - c) Metoclopramide
 - d) Haloperidol
 - e) Domperidone
4. An elderly man presents with a history of memory loss and abnormal behaviour over several months. He has a history of significant alcohol intake. He wishes to outline a will and testament. What is the best way to assess his ability to do this?
- a) Clinical assessment
 - b) Neuro-psychological testing
 - c) CT head
 - d) Discussion with relatives
 - e) Mini mental state exam
5. An elderly woman with a low body weight for her age has a post prandial blood glucose of 10.6 (3.6-6.8). What is the most likely reason for this?
- a) Increased glucose absorption

- b) Decreased insulin levels
 - c) Insulin resistance
 - d) Increased sub-cutaneous fat
6. In the elderly, which of the following is most likely to decline with age in both males and females?
- a) Cortisol
 - b) Thyrotropin
 - c) ACTH
 - d) DHEA
 - e) Insulin
7. A couple present with a con-sanguineous marriage and a family history of haemophilia. What is the likelihood of their child suffering from haemophilia?



- a) < 1%
 - b) 0.25%
 - c) 12.5%
 - d) 25%
 - e) 33%
8. Asymptomatic 69 year old woman. The entire page of a DEXA bone scan report is provided. Various Z and T scores are shown but essentially it shows that 3 of her lumbar vertebrae and her femoral neck have T scores ranging from -3.0 to -3.5. What is the WHO diagnosis?
- a) Normal
 - b) Increased bone mineral density
 - c) Severe osteoporosis
 - d) Osteoporosis
 - e) Osteopenia

9. A pathology specimen labelled as a "cranial artery biopsy" (definitely was not called a "temporal artery" specimen). No one was really sure what it showed, low power view had lots of inflammatory cells within the vessel wall, and possibly (???) a granuloma on the high power view. What is the most likely presenting clinical feature?
- Ischaemic optic neuropathy
 - Oculomotor neuropathy
 - Posterior cerebral ischaemia
 - Scleritis
10. A hand x-ray is provided showing sclerosis and joint space narrowing of the right thumb metacarpo-phalangeal joint. No other abnormalities obvious. What is the most likely cause of the changes shown?
- Traumatic osteo-arthritis
 - Haemochromatosis
 - Primary osteo-arthritis
 - Haemophillia
11. A man presents with haemoptysis and is found to have a primary broncho-genic carcinoma on bronchoscopy. A single slice of a CT chest is shown along with a single slice through the upper abdomen. The chest shows a bulky, dense, heterogenous mass in the mediastinum surrounding the aorta and pulmonary arteries (difficult to distinguish tumour from nodal tissue). This seemed to extend out towards the periphery but there was no obvious isolated mass lesion outside the mediastinum. The abdomen was a slice through the liver and the left adrenal. There was possibly a met in the liver, but the adrenal was definitely enlarged. What is the stage of this man's disease?
- T1 N0 M0
 - T2 N0 M0
 - T1 N1 M1
 - T2 N1 M1
 - T4 N1 M1
12. A 72 year old man with a BMI of 22 presents with COPD. FEV1 is 25% of predicted. Results of an overnight oximetry/CO₂ recording are shown.



What is the most likely cause of this pattern?

- a) Central sleep apnoea
- b) Bronchospasm
- c) Hypoventilation
- d) Obstructive sleep apnoea
- e) VQ mismatch

13. 26 year old man presents with acute headache, fever, neck stiffness. CSF gram stain shows gram negative diplococci. What is the best drug for prophylaxis for his wife who is 24 weeks pregnant?

- a) Penicillin
- b) Ciprofloxacin
- c) Vaccination
- d) Ceftriaxone
- e) Erythromycin

14. A young woman presents with symptoms and signs of a UTI / pyelonephritis. She is started on cephalexin. After 5 days remains symptomatic and a urine culture shows a persistent growth of an Enterococcus. What is the most likely reason for her failure to respond?

- a) Oral rather than IV therapy
- b) Resistance
- c) Non-compliance
- d) Inadequate time
- e) Inadequate tissue penetration

15. The results of trials for 5 different drugs are given. Which trial has the lowest number needed to treat?

	Treatment response (%)	Placebo response (%)
A	15	10
B	2.5	1
C	20	16
D	15	11
E	12	8

16. A test has a sensitivity of 100% and a specificity of 95%. If the prevalence of the disease in the population is 0.1% what is the positive predictive value?

- a) < 1%
- b) 2%
- c) 5%
- d) 20%
- e) 50%

17. A 72 year old man who is generally well and independent with all ADL's wishes to begin an exercise regime consisting of a daily walk around the block of 30 mins duration. After 3 months, which of the following are most likely to improve?

- a) ADL's
- b) 6 min walk test
- c) Knee raise strength
- d) Gait speed

18. What is the best measurement to estimate the amount of visceral fat?

- a) Waist : hip ratio
- b) Waist circumference
- c) Total weight
- d) BMI
- e) Skin fold thickness

19. In a pre-menopausal woman with metastatic breast cancer (oestrogen receptor positive) which of the following will best reduce oestrogenic stimulation of the tumour?

- a) SERM
- b) LHRH agonist
- c) Aromatase inhibitor
- d) Chemotherapy
- e) Progesterone

20. What is the principle reason for surgical de-bulking of tumours prior to chemo therapy?

- a) Increased tumour penetration
- b) Increased tumour kill rate
- c) Decreased cell replication
- d) Decreased dose of chemo
- e) Decreased toxicity of chemo

21. Which of the following best describes the hormonal changes associated with major depression?

	Cortisol	CRH
A	Low	High
B	Low	Low
C	High	High
D	High	Low
E	High	Unchanged

22. In advanced anorexia nervosa which of the following hormones is least likely to be low?
- a) Cortisol
 - b) Leptin
 - c) T3
 - d) Oestrogen
 - e) FSH
23. A young man suffers a blow to the right shoulder during a rugby tackle. He presents some days later with an area of decreased sensation over the right lateral forearm, weakness of shoulder abduction and internal rotation. Reflexes are normal. Injury to which of the following structures is most likely to account for these findings?
- a) C5 nerve root
 - b) Axillary nerve
 - c) Upper branch of brachial plexus
 - d) Suprascapular nerve
 - e) Musculocutaneous nerve
24. An elderly man presents with several months of intermittent right shoulder pain, occasionally severe and often worse at night. There are no neurological findings but there is some discomfort on abduction of the shoulder. Which of the following structures is most likely to be the cause?
- a) AC joint
 - b) Biceps tendon
 - c) Gleno-humoral joint
 - d) Cervical spine
 - e) Rotator cuff
25. When administered, a certain chemo-therapy drug produces a first order tumour response. Which of the following statements is most consistent with this property?
- a) The cell kill fraction is constant
 - b) The cell kill number is constant
 - c) The cell kill number is constant with prolonged exposure
26. A 20 yr old athlete survives a community cardiac arrest. Which is the most likely underlying problem?
- a) Hypertrophic cardiomyopathy
 - b) Right ventricular dysplasia
 - c) Myocarditis
 - d) Coronary plaque rupture
 - e) Anomalous coronary arteries

27. Which of the following lesions produces the highest risk for a pregnant woman when moderately-severe?
- a) Coarctation of the aorta
 - b) Pulmonary hypertension
 - c) Aortic regurgitation
 - d) HOCM
 - e) Mitral valve prolapse
28. Which of the following is most likely to increase the risk of pre-eclampsia?
- a) Oral sex
 - b) Long term cohabitation
 - c) Increased time between pregnancy
 - d) Multiple pregnancies
 - e) Use of condoms
29. Which of the following requires the longest exposure to asbestos in order to develop?
- a) Benign pleural plaque
 - b) Mesothelioma
 - c) Interstitial lung disease
 - d) Significant pleural thickening
 - e) Bronchogenic carcinoma
30. When giving adenosine, a dose reduction is required in patients who are taking which one of the following drugs?
- a) Warfarin
 - b) Dipyridamole
 - c) Theophylline
 - d) Salbutamol
 - e) Clopidigrel
31. A 31 yr old man has had HIV disease for 6 years and has been on no treatment. He now presents with a CD4 count of 260. His count had remained above 500 until 2 years ago when it began to decline slowly. Over the last 6 months the rate of decline of his CD4 count has markedly increased. What is the most likely explanation for this?
- a) Thymus dysfunction
 - b) Occult opportunistic infection
 - c) Lymph node disruption
 - d) Change in receptor usage by the virus
 - e) Decreased IL2 levels

32. In immuno-compromised individuals such as HIV patients which is the most common cell of origin for cancers of immune system cells?
- a) B cell
 - b) CD4 + T cell
 - c) CD8 + T cell
 - d) Macrophage
 - e) Thymocyte
33. In sarcoidosis which is the cell most responsible for driving the pathogenesis of the disease?
- a) Macrophage
 - b) TH1 cell
 - c) TH2 cell
 - d) Fibroblast
 - e) Natural Killer cell
34. In an immuno-compromised patient, which of the following tests is most useful for diagnosing the presence of active CMV infection?
- a) CMV tissue culture
 - b) CMV antigen from PMN cells
 - c) CMV IgM levels
 - d) CMV DNA levels by PCR