



# PTS Reading Week Question Series 2020

## Day 2- Cardiovascular & Respiratory

*Andrew Maud*

### **d** **Cardiovascular QUESTIONS / 39**

1. Name 3 clinical features needed for diagnosis of typical stable angina (3)
2. QRISK is a cardiovascular disease risk predictor used by GPs. Give 3 modifiable and 3 non-modifiable risk factors for cardiovascular disease that are asked for in a QRISK calculation. (6)
3. Give an example of an ACEi and a side effect of this drug? (2)
4. Patient arrives to hospital with a suspected MI. ECG shows ST elevation. What would you expect to see on the ECG over the next few hours and the next few days? (4)
5. What are the 3 cardinal symptoms of heart failure? (3)
6. You suspect that a patient has heart failure and perform a chest x-ray. Name 3 signs that you would be visible to confirm your diagnosis? (3)
7. Name 2 of the 4 features of Tetralogy of Fallot. (2)
8. What condition is characterised with a concave-upwards (saddle-shaped) ST elevation on ECG? (1)
9. What would be the first-line treatment for a 49-year-old Caribbean male with a BP of 148/96? (1)
10. What is the most likely diagnosis of a patient with the following ECG findings? ECG: F waves, no P waves, QRS irregularly irregular? (1)
11. Name 2 clinical features of aortic dissection (2).
12. What are the four stages of chronic limb ischaemia? (4)
13. Give 2 causes of secondary hypertension? (2)
14. There are several types or causes of shock, circulatory failure that leads to inadequate organ perfusion, give 3 examples. (3)
15. Give 2 complications of an aneurysms? (2)



## **Respiratory QUESTIONS/ 39**

1. Pulmonary Hypertension is defined as a pressure over how many mmHg? (1)
2. Give 2 signs of Pulmonary Hypertension on chest X-ray? (2)
3. Chemotherapy is a management option for patients with extensive lung cancer, what are the side effects of chemotherapy? (3)
4. Name 3 causes of a pleural effusion consisting of exudate. (3)
5. What is the most common histological type of a non-small cell lung cancer? (1)
6. Name the 2 conditions that constitute COPD? (2)
7. Which specific blood marker supports the diagnosis of pulmonary embolism i.e. a negative test excludes a diagnosis of PE. (1)
8. A 60 year old male presents to his GP with a four month history of a productive cough with bloodstained sputum. He reports feeling more tired than usual, he has had night sweats and has lost 10lb. He travelled to Nigeria 6 months ago. On examination of his neck you palpate enlarged lymph nodes. Sputum sample reveals a growth of acid-fast bacilli. What is the causative organism and what stain would you use to determine the causative organism obtained from a sputum sample? (2)
9. Patient presents with shortness of breath, a productive cough with rusty sputum. You suspect they have a community acquired pneumonia. To inform your decision as to whether they need to be admitted to hospital you run through CURB65 for which they score 2.
  - a. Giving values where appropriate state what the components of CURB 65. (5)
  - b. You should admit them to hospital with a score of 2. True or False. (1)
  - c. Which antibiotic(s) would you prescribe for this patient? (2)
10. Name 3 clinical features of bronchiectasis (3)
11. What is the management of severe acute extrinsic allergic alveolitis? (2)
12. Asthma symptoms are caused by a narrowing of the airways, give 2 factors that contribute to the narrowing of the airways? (2)
13. Short-acting beta agonists (SABA) are prescribed from the management of asthma, give an example of a SABA and describe the method of action of this drug. (3)
14. Describe the blood gasses of type 1 and type 2 respiratory failure (don't give values) (4)
15. Name 2 tests you would use to diagnose cystic fibrosis? (2)



## Cardiovascular ANSWERS

- Name 3 clinical features needed for diagnosis of typical stable angina.*
  - Chest pain that radiates (1)
  - Relieved with rest or GTN spray (1)
  - Provoked by physical exertion (1)
- QRISK is a cardiovascular disease risk predictor used by GPs. Give 3 modifiable and 3 non-modifiable risk factors for cardiovascular disease that are asked for in a QRISK calculation. (1 per correct answer, max 3 modifiable, max 3 non-modifiable)*
  - Modifiable: Smoking, Diabetes, Cholesterol/HDL ratio, Blood Pressure, BMI
  - Non-Modifiable: Age, Gender, Ethnicity, Angina/MI 1<sup>st</sup> degree relative, Diagnosis of: AF, RA, SLE, ED, Sever mental illness,
  -
- Give an example of an ACEi and a side effect of this drug?*
  - Example: Ramipril, Lisinopril, Enalapril (Any correct ACEi for 1)
  - SE: Dry Cough, Hyperkalaemia, Fatigue, Headache, (Any correct SE for 1)
- Patient arrives to hospital with a suspected MI. ECG shows ST elevation. What would you expect to see on the ECG over the next few hours and the next few days?*
  - Hours= Tall T waves, ST Elevation. (1 mark each- max 2)
  - Days= T inversion, Pathological Q waves (1 mark each- max 2)
- What are the 3 cardinal symptoms of heart failure?*
  - Shortness of breath (1)
  - Fatigue (1)
  - Peripheral oedema (1)
- You suspect that a patient has heart failure and perform a chest x-ray. Name 3 signs that you would be visible in a patient with heart failure? (1 mark each correct- max 3) Clue- ABCDE*
  - Alveolar oedema (bat wings)
  - Kerley B lines (interstitial oedema),
  - Cardiomegaly,
  - Dilated Prominent Upper Lobe Vessels,
  - Pleural Effusion
- Name 2 of the 4 features of Tetralogy of Fallot. (1 mark each correct- max 2)*
  - A large, misaligned ventricular septal defect
  - An overriding aorta
  - Right ventricular outflow tract obstruction
  - Right ventricular hypertrophy
- What condition is characterised with a concave-upwards (saddle-shaped) ST elevation on ECG?*
  - Pericarditis (1)
- What would be the first-line treatment for a 49-year-old Caribbean male with a BP of 148/96?*
  - Calcium Channel Blocker (e.g. amlodipine) (1)
- What is the most likely diagnosis of a patient with the following ECG findings? ECG: F waves, no P waves, QRS irregularly irregular?*
  - Atrial fibrillation (1)
- Name 2 clinical features of aortic dissection (1 per correct answer- max 2).*



- Sudden 'tearing' chest pain +/- radiates to back
- Unequal arm pulses and BP
- Acute limb ischaemia
- Paraplegia
- Anuria

12. *What are the four stages of chronic limb ischaemia?*

- Stage I: asymptomatic (1)
- Stage II: intermittent claudication (1)
- Stage III: rest pain/nocturnal pain (1)
- Stage IV: necrosis/gangrene (1)

13. *Give 2 causes of secondary hypertension? (1 mark per correct answer – max 2)*

- Renal Disease e.g CKD, renal artery stenosis, polycystic kidney disease, Cushing's, Conn's, Pheochromocytoma, Coarctation of aorta, Pregnancy, COCP

14. *There are several types or categories of shock, circulatory failure that leads to inadequate organ perfusion, give 3 examples. (1 mark per correct answer- max 2)*

- Anaphylactic, Cardiogenic, Septic, Haemorrhagic, Neurogenic

15. *Give 2 complications of an aneurysms? (1 mark per correct answer- max 3)*

- Rupture, Thrombosis, Embolism, Excess pressure on other structures



## Respiratory ANSWERS

1. *Pulmonary hypertension is defined as a pressure over how many mmHg? (1)*
  - 25 mmHg
  -
2. *Give 2 signs of Pulmonary Hypertension on chest X-ray? (1 mark per correct answer- max 2)*
  - Enlargement of the pulmonary arteries,
  - Lucent lung fields,
  - Enlarged right atrium,
  - Elevated cardiac apex due to right ventricular hypertrophy
3. *Chemotherapy is a management option for patients with extensive lung cancer, what are the side effects of chemotherapy? (1 mark per correct answer- max 3)*
  - Alopecia, Nausea and Vomiting, Peripheral neuropathy, Constipation or Diarrhoea, Mucositis, Rash, Bone Marrow Suppression, Anaemia, Fatigue, Anaphylaxis
4. *Name 3 causes of a pleural effusion consisting of exudate . (1 mark per correct answer- max 3)*
  - Malignancy (lung, breast, mesothelioma),
  - Infection (lung, pleural, abdominal),
  - Inflammatory (RA, SLE),
  - Pulmonary embolism,
  - Benign asbestos related,
  - Traumatic (haemothorax/chylothorax),
  - Drug reaction
5. *What is the most common histological type of a non-small cell lung cancer?*
  - Adenocarcinoma (40%) (1)
6. *Name the 2 conditions that constitute COPD?*
  - Emphysema (1)
  - Chronic Bronchitis (1)
7. *Which specific blood marker supports the diagnosis of pulmonary embolism i.e. a negative test excludes a diagnosis of PE. (1)*
  - Plasma D-dimer (1)
8. *A 60 year old male presents to his GP with a four month history of a productive cough with bloodstained sputum. He reports feeling fatigued, has night sweats and thinks his clothes are loose on him, He's a charity worker and recently visited Nigeria 6 months ago. On examination of his neck you palpate enlarged lymph nodes. Sputum sample reveals a growth of acid-fast bacilli. What is the causative organism and what stain would you use to determine the causative organism obtained from a sputum sample?*
  - Organism= Mycobacterium tuberculosis, (1)
  - Stain= Ziehl-Neelsen stain. (1)
16. *Patient presents with shortness of breath, a productive cough with rusty sputum. You suspect they have a community acquired pneumonia. To inform your decision as to whether they need to be admitted to hospital you run through CURB65 for which they score 2.*
  - a. *Giving values where appropriate state what the components of CURB 65.*
    - Confusion (1)
    - Urea  $\geq$  7mmol/L (1)
    - Respiratory Rate  $\geq$  30/min (1)
    - Low BP (Systolic < 90 / Diastolic  $\geq$ 60) (1)

**PTS- Reading Week Question Series 2020- Andrew Maud**

This resource has been *created by students for student* for revision purposes only.

Upload your scores and feedback on the google form <https://forms.gle/2aHcLpLnMwLXKYPf6>



- Age  $\geq$ 65 (1)
  - b. *You should admit them to hospital with a score of 2. True or False.*
    - True. Score  $\geq$  2 recommend admitting to hospital (1)
  - c. *Which antibiotic(s) would you prescribe for this patient?*
    - CURB65 of 2 = Amoxicillin (1) and Clarithromycin (1)
9. *Name 3 clinical features of bronchiectasis*
- Persistent cough,
  - Purulent sputum (but some patients may have a non-productive cough,
  - Clubbing,
  - Dyspnoea .
  - No history of smoking + young age of onset = raises suspicion of BE,
  - Haemoptysis,
  - Recurrent pulmonary infections
10. *What is the management of severe acute extrinsic allergic alveolitis? (1 mark per correct answer-max 2)*
- Remove/avoid exposure to allergen
  - Oxygen to treat hypoxaemia
  - Corticosteroids/ prednisolone
11. *Asthma symptoms are caused by a narrowing of the airways, give 3 factors that contribute to the narrowing of the airways?*
- Inflammation of mucosa (1)
  - Smooth muscle contraction leading to bronchoconstriction (1)
  - Increased mucus production (1)
  -
12. *Short-acting beta agonists (SABA) are prescribed from the management of asthma, give an example of a SABA and describe the method of action of this drug. (3)*
- SABA= Salbutamol (1)
  - Action-- Binds to beta-2-adrenoceptors (1) present in the lungs leading to smooth muscle relaxation and therefore bronchodilation (1)
  -
13. *Describe the blood gasses of type 1 and type 2 respiratory failure (no values needed) (4)*
- Type 1 has hypoxaemia/Low O<sub>2</sub> (1) without hypercapnia/normal CO<sub>2</sub> (1)
  - Typ2 has both hypoxaemia /Low O<sub>2</sub> (1) and hypercapnia/raised CO<sub>2</sub> (1)
14. *Name 2 tests you would use to diagnose cystic fibrosis? (1 mark per correct answer- max 2)*
- Sweat test
  - Genetics F
  - Faecal elastase.



## Summary Page

### Set Goals.

**Work smart to achieve those goals.**

**Reflect. Adapt. Succeed.**

<b>Question</b>	<b>Theme</b>	<b>Correct?</b>
1	Angina	
2	QRISK/ RFs CVD	
3	Pharmacology- ACEi	
4	ECG MI	
5	Heart Failure	
6	Heart Failure Ix	
7	Tetralogy of Fallot	
8	Pericarditis	
9	Hypertension Mx	
10	ECG AF	
11	Aortic Dissection	
12	Ischaemia	
13	Secondary Hypertension	
14	Shock	
15	Aneurysm	
<b>Question</b>	<b>Theme</b>	<b>Correct?</b>
1	Pulmonary Hypertension	
2	Pulmonary Hypertension Ix	
3	Chemotherapy SEs	
4	NSSLC	
5	Lung CA	
6	COPD	
7	Pulmonary Embolism	
8	TB Microbiology	
9	Bronchiectasis	
10	Bronchiectasis	
11	Extrinsic Allergic Alveolitis	
12	Asthma	
13	Pharmacology- SABA	
14	Cystic Fibrosis	
15		

**Cardio Score /39:**

**(\*Upload to Google Form\*)**

**Area to focus on next:**

**Respiratory Score /39:**

**(\*Upload to Google Form\*)**

**Area to focus on next:**

Upload Scores → Google Form: <https://forms.gle/2aHcLpLnMwLXKYPf6>

PTS- Reading Week Question Series 2020- **Andrew Maud**

This resource has been *created by students for student* for revision purposes only.

Upload your scores and feedback on the google form <https://forms.gle/2aHcLpLnMwLXKYPf6>

PTS- Reading Week Question Series 2020- Andrew Maud

This resource has been *created by students for student* for revision purposes only.  
Upload your scores and feedback on the google form <https://forms.gle/2aHcLpLnMwLXKYPf6>