



Q34



Which one of the following cardiac conditions is most associated with a louder murmur following the Valsalva manoeuvre?

- ☐ Mitral stenosis
- ☐ Aortic stenosis
- ☐ Ventricular septal defect
- ☒ Hypertrophic obstructive cardiomyopathy
- ☐ Aortic regurgitation

Echocardiogram	Adequate left <u>ventricular systolic</u> function with ejection fraction >55%. Right <u>ventricular enlargement</u> with estimated PASP (pulmonary arterial systolic pressure) of 44mmHg (not including right atrial pressure). Evidence of right <u>atrial enlargement</u> .
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What is the most likely cardiovascular abnormality to be found on auscultation?

- ☐ Ejection systolic murmur
- ☐ Loud S2 heart sound
- ☐ Soft S2 heart sound
- ☐ S3 heart sound
- ☐ S4 heart sound

Which one of the following is a cause of a soft second heart sound?

- ☒ Aortic stenosis
- ☐ Aortic regurgitation
- ☐ Mitral stenosis
- ☐ Mitral regurgitation
- ☐ Pulmonary hypertension

A 53-year-old man is reviewed in the cardiology clinic with a history of chest pain and syncope. On examination he has an ejection systolic murmur radiating to the carotid area. What is the most likely cause of his symptoms? AS

- ☐ Bicuspid aortic valve
- ☐ Aortic root abscess
- ☐ Post rheumatic fever
- ☐ Posterior myocardial infarction
- ☒ Calcification of the aortic valve



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An 80-year-old man presents to accident and emergency with leg swelling. He has been more fatigued recently. His past medical history includes diabetes and chronic obstructive pulmonary disease. He has been on metformin and inhalers for many years.

On examination, you note a barrel chest, elevated jugular venous pressure, and a systolic murmur over the 4th intercostal left parasternal region. You ask him to take a deep breath in and the murmur becomes louder. You listen over the carotids but hear no murmurs. Lungs are vesicular with no wheezes or crackles. You examine his legs which show bilateral pitting oedema. Heart rate 85 and blood pressure 130/80mmHg.

What valvular pathology is present in this patient's heart?

- ☐ Aortic stenosis
- ☐ Mitral regurgitation
- ☐ Mitral stenosis
- ☒ Tricuspid regurgitation
- ☐ Tricuspid stenosis



Q5



You are reviewing a 78-year-old man who has been admitted via the emergency department with chest pain. History reveals that he has been struggling with shortness of breath, and that his wife is worried as he briefly lost consciousness on one occasion.

Echocardiogram reveals aortic stenosis.

What examination finding would suggest that his condition is severe?

- ☐ Loud second heart sound
- ☐ Fourth heart sound
- ☐ Chest pain
- ☐ Collapsing pulse
- ☐ Split second heart sound

A 48-year-old man presents to his general practitioner with mild dyspnoea. He has a background of a metastatic carcinoid tumour and takes octreotide. He does not smoke or drink alcohol.

On examination, there is an ejection systolic murmur heard loudest in inspiration. Chest auscultation is normal, the jugular venous pulse is not elevated and there is no peripheral oedema.

What is the most likely diagnosis of the options listed?

- ☐ Aortic stenosis
- ☐ Mitral stenosis
- ☐ Mitral valve prolapse
- ☐ Pulmonary stenosis
- ☐ Tricuspid stenosis



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You are a doctor on the medical assessment unit. You are asked to review a 52-year-old man with a past medical history of prostate cancer for which he is on goserelin injections.

He was admitted from the emergency department requiring 35% oxygen to maintain saturations >94%.

He describes a one week history of gradually worsening dyspnoea and dizziness. He denies a persistent cough but states he has had two episodes of frank haemoptysis. He denied collapse and loss of consciousness.

Arterial blood gas (ABG) on room air:

pH	7.540	(7.350 - 7.450)
pCO ₂	2.56 kPa	(4.60 - 6.00)
pO ₂	9.66kPa	(11.0 - 14.4)
Bicarbonate	16.6 mmol/L	(18.0 - 28.0)

A 62-year-old man comes for review. In the past month he has had two episodes of 'passing out'. The first occurred whilst going upstairs. The second occurred last week whilst he was getting out of a swimming pool. There were no warning signs prior to these episodes. He was told by people who witnessed the episode last week that he was only 'out' for around 15 seconds. He reports feeling 'groggy' for only a few seconds after the episode. On examination pulse is 90 / minute, blood pressure 110/86 mmHg, his lungs are clear and there is a systolic murmur which radiates to the carotid area. Which one of the following investigations should be arranged first?

- ☐ 24 hour ECG monitor
- ☐ Echocardiogram
- ☐ Exercise tolerance test
- ☐ CT head
- ☐ Carotid doppler

B

Causes of a loud S2

- hypertension: systemic (loud A2) or pulmonary (loud P2)
- hyperdynamic states
- atrial septal defect without pulmonary hypertension

A 57-year-old male is referred to the cardiology clinic with mild dyspnoea. He has a background medical history of hypertension, hypercholesterolemia, type two diabetes mellitus, and he has recently been diagnosed with a metastatic carcinoid tumour.

On examination, he has a harsh mid-ejection systolic murmur that is loudest on inspiration.

What is the most likely diagnosis?

- ☐ Aortic regurgitation
- ☐ Aortic stenosis
- ☐ Mitral stenosis
- ☐ Pulmonary stenosis
- ☐ Tricuspid regurgitation

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