

# **MCQ**

**Thoraxanestesi och intensivvård**

# MCQs

- Läs frågan noggrant
- Håll koll på frågornas ordning
- Krångla inte till det
- Gå vidare om du fastnar, markera frågan
- Ge akt på ord som "may", "can" och "never"  
liksom dubbel negation
- För in direkt på svarspappret (annars risk att det inte hinns med...)

**1. The following cardiac abnormalities are associated with Downs Syndrome patients:**

- a. Patent Ductus Arteriosus
- b. Atrial Septal Defects
- c. Ventricular Septal defects
- d. Aortic regurgitation
- e. Pulmonary hypertension

## **2. Hypoxia during one lung ventilation for a Video Assisted Thoracoscopic procedure:**

- a. is contributed to by pulmonary shunting causing ventilation perfusion mismatch
- b. can be secondary to atelectasis of the dependant lung
- c. can be managed by applying CPAP to the non dependant lung
- d. is not worsened by employing large tidal volumes, a slow ventilation rate and no PEEP strategy
- e. can be managed by clamping the pulmonary artery

### **3. Causes of right ventricular failure include:**

- a. massive pulmonary embolus
- b. left ventricular failure
- c. mitral stenosis
- d. pulmonary stenosis
- e. obstructive sleep apnea

## 4. Concerning pacemakers:

- a. AOO is a fixed rate type of pacemaker
- b. VVI is the most common type of synchronous pacemaker
- c. failure to capture is never seen with hyperkalaemia
- d. unipolar electrocautery is preferred in patients with a pacemaker
- e. the ground plate of the electrocautery should be placed as far as possible from the pacemaker

## 5. Heparin

- a. has a molecular weight between 3000-60000 daltons
- b. acts by binding to antithrombin III
- c. has antiplatelet activity
- d. prolongs the prothrombin time
- e. has a shorter duration of action than low molecular weight heparin

- 6. In a normal healthy man at rest in the supine position:**
- a. left ventricular end-diastolic volume is about 20 ml
  - b. the first heart sound coincides with the onset of ventricular systole
  - c. cardiac output is approximately 75 ml/beat
  - d. left ventricular end-diastolic pressure is about 5 mmHg
  - e. the second heart sound coincides with the end of the T wave of the ECG

## **7. Regarding central venous pressure monitoring:**

- a. the tip of the catheter must be in the right atrium
- b. cannon a waves are seen in presence of junctional rhythm
- c. y descent is due to opening of the tricuspid valve
- d. x descent occurs during ventricular systole
- e. a wave corresponds with QRS complex in ECG

## **8. Features of aortic regurgitation include:**

- a. right ventricular hypertrophy
- b. wide pulse pressure
- c. a mid-diastolic murmur at the apex
- d. pulsus paradoxus
- e. cardiac failure

**9. Acute cardiac tamponade is associated with:**

- a. massive ascites
- b. increased a waves on the CVP curve
- c. bradycardia
- d. cyanosis and peripheral shutdown
- e. pulsus paradoxus

## **10. Causes of pulmonary hypertension include:**

- a. Atrioseptal defect
- b. Chronic bronchitis
- c. Pulmonary embolism
- d. Sodium nitroprusside infusion
- e. High altitude

## **11. Protamine**

- a. is a negative charged molecule due to content of Arginine
- b. 1 mg reverses 1000 U heparin
- c. should be given by a rapid infusion
- d. Has no cardiovascular effects
- e. Test dose is given after the arterial cannula is withdrawn

## **12. The heart lung machine**

- a. Is always necessary in open cardiac surgery
- b. requires a protamine bolus to initiate
- c. does not expose the blood to air
- d. its use often leads to transient hyperkalemia
- e. includes an heat exchanger

### **13. Regarding severe aortic stenosis**

- a. the most common cause is rheumatic
- b. atrial systole is shortened
- c. the mean gradient 20-40
- d. tachycardia is beneficial
- e. SVR should be kept low

**14. Regarding anaesthesia for a patient with severe mitral regurgitation**

- a. slight bradycardia is beneficial
- b. Afterload should be kept high
- c. A fluid bolus is often beneficial
- d. SAM is best treated giving inotropic support and furosemid
- e. Prolapse of the posterior leaflet is the most common structural mechanism

**15. Hypoxic pulmonary vasoconstriction is reduced by**

- a. hypocapnia
- b. hypothermia
- c. PEEP
- d. mitral stenosis
- e. isoflurane

## 16. Regarding ECMO

- a. cannot be run without a continuous infusion of heparine
- b. peripheral VA-ECMO is always the preferred modality to start with
- c. the patient on ECMO must be under general anaesthesia
- d. there is no venous reservoir
- e. maximum length of recommended use is 10 days

**17. Hemodynamic calculations, true or false?**

a.  $BT = HR \times SV \times SVR$

b.  $CO = SVR \times HR$

c.  $SVRI = (MAP - CVP) / CO \times 80$

d.  $MAP = PP + 1/3DP$

e.  $SvO_2 = SaO_2 - (VO_2 / (1.36 \times Hb \times CO))$

## **18. Cor pulmonale**

- a. milrinone might be a suitable drug
- b. cystic fibrosis could be the cause
- c. slight acidosis might be beneficial
- d. afterload should be kept relatively high
- e. involves the right ventricle

**19. PAOP will be greater than LVEDP in the presence of:**

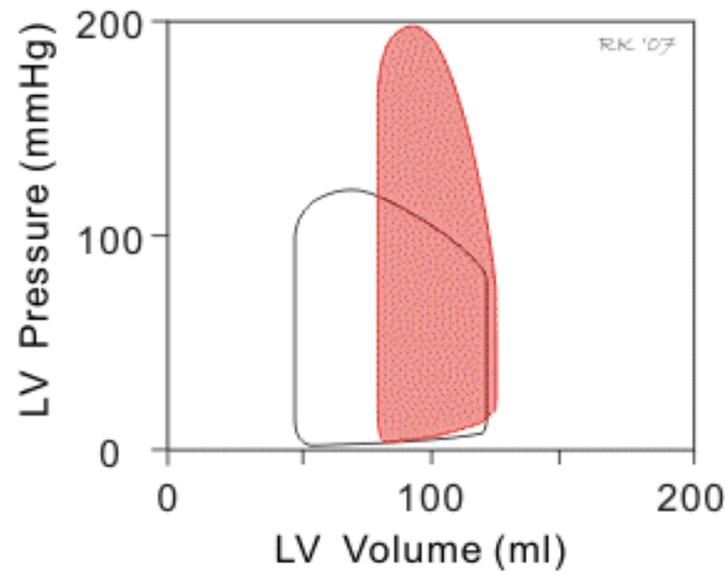
- a. severe mitral stenosis
- b. positive end-expiratory pressure
- c. left atrial myxoma
- d. stiff left ventricle
- e. premature closure of the mitral valve

**20. The a-wave of the central venous pressure waveform:**

- a. is caused by atrial contraction
- b. is not seen in atrial fibrillation
- c. is caused by atrial filling during ventricular contraction
- d. decreases with inspiration
- e. Is followed by the v-wave

## 21. Concerning the red PV-curve:

- a. reflects aortic regurgitation
- b. SV is decreased
- c. afterload is high
- d. end-systolic volume is not changed
- e. the heart probably has eccentric hypertrophy



# Answers MCQ

1. TTTFT
2. TTTFF
3. TTTTT
4. TTFFT
5. FTTTT
6. FTTTT
7. FTTF
8. FTFFT
9. FTFTT
10. TTTFT

11. FFFFF
12. FFFTT
13. FFFFF
14. FFTFT
15. TTTTT
16. FFFTF
17. TFFFT
18. TTFFT
19. TFTFF
20. TTFFF
21. FTTF