

## JCM Aug 2026 Quiz

### NLTH

#### Case 1

A 72-year-old male presented with sudden, severe, ripping tearing back pain radiating to the flanks and groin.

Past medical history: hypertension, coronary artery disease, current smoker

Vitals signs:

- Temperature 37.2°C
- Heart rate 112 bpm
- Blood Pressure 94/56 mmHg
- Respiratory rate 20 bpm
- Oxygen saturation 96% RA

Physical examination

- Abdomen: a prominent, tender, pulsatile mass palpated in the periumbilical region
- Cool, clammy extremities with diminished femoral peripheral pulses

Q1a. What is the most likely diagnosis in this patient?

Q1b. List 3 risk factors for this condition.

Q1c. List 2 important sonographic signs in this condition that directly points to clinical severity.

Q1d. Name 2 emergency department management for this condition.

Q1e. What is the risk score to predict mortality in this condition?

#### Case 2

A 58-year-old man complains of sudden onset agonizing chest and back pain that started 45 minutes ago. The patient was lifting heavy boxes when he experienced an abrupt, "tearing" sensation.

Pain score 10/10

Past medical history: long standing essential hypertension, hyperlipidaemia, active smoker

Vital signs

Temperature 36.8°C

Blood pressure:

Right arm: 195/102 mmHg

Left arm: 170/95 mmHg

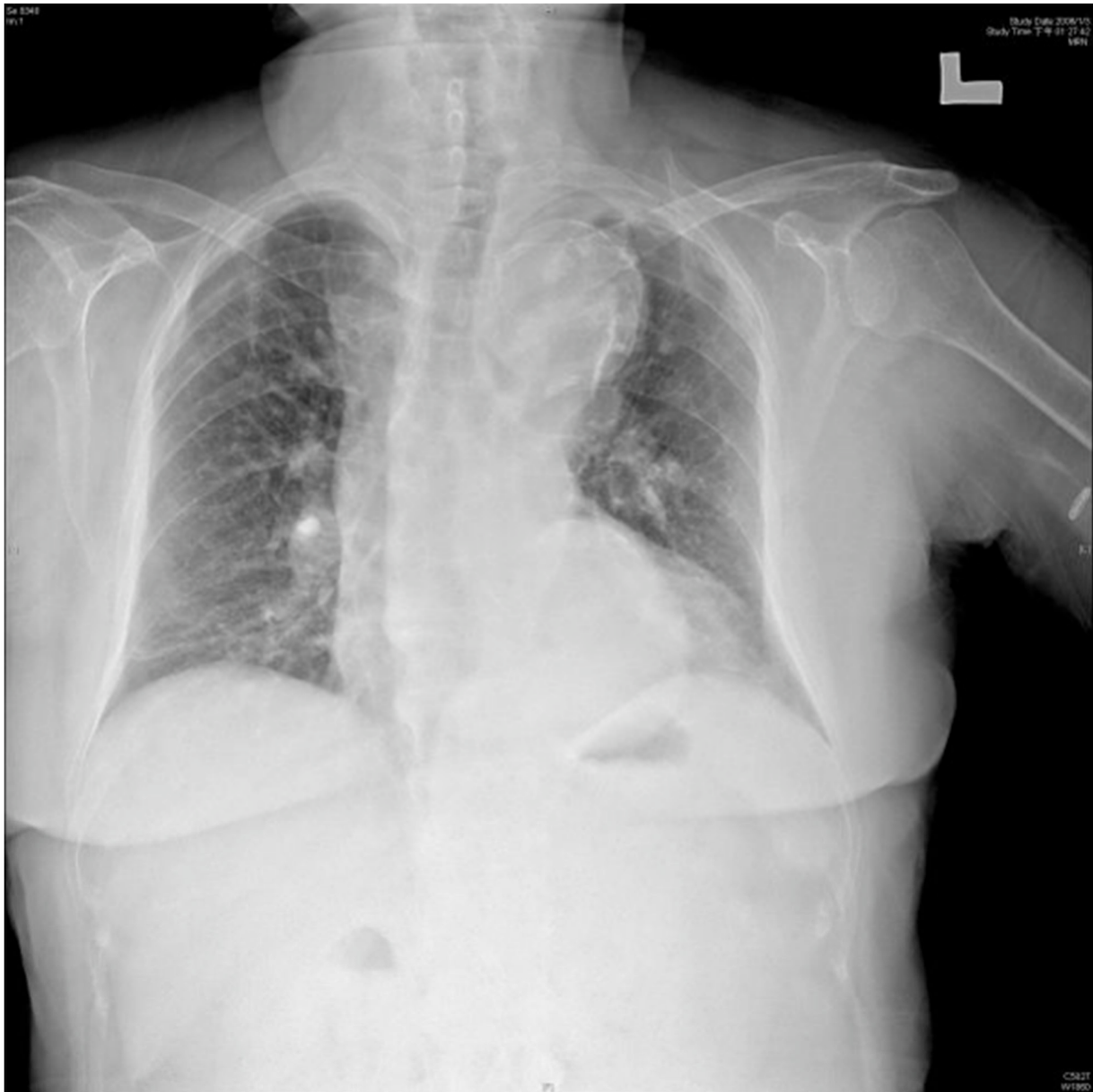
Heart Rate 102 bpm

Respiratory rate 22 bpm

Oxygen saturation 96% RA

Q2a. Name 3 differential diagnoses.

Q2b.



A CXR was done.

Name 3 abnormalities.

Q2c. Name 4 possible echocardiographic signs in acute aortic dissection

Q2d. Name 3 specific management in emergency department.

Q2e. The patient has to be transferred to cardiothoracic unit in another hospital. Name 5 things (equipment/ medications) that you will prepare before transfer.

Q3a. What are the indications for arterial line catheterization?

Q3b. Name 2 common sites for arterial line insertion.

Q3c. Name 5 complications of arterial line insertion.

Q3d. What is the physical principle behind non-invasive blood pressure monitoring?

- A. Korotkoff principle
- B. Oscillometric principle
- C. Piezoelectric principle
- D. Venturi principle

Q3e. What is the physical principle behind invasive blood pressure monitoring?

- A. Electromagnetic coupling
- B. Fourier coupling
- C. Hydraulic coupling
- D. Pulse contour coupling

Q4a. What are the component of an intra- arterial blood pressure measuring system?

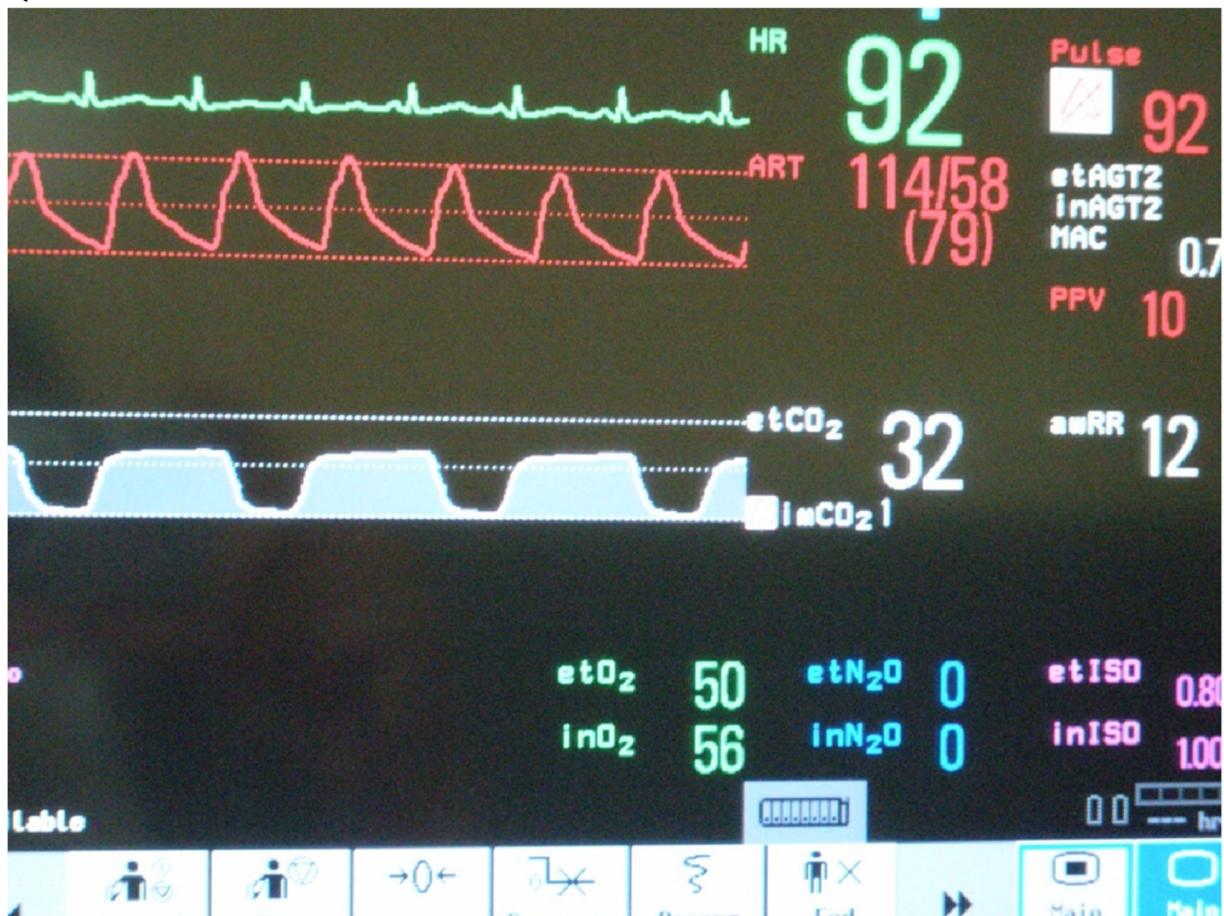
Q4b. What does zeroing of intra-arterial blood pressure measuring system mean?

- A. flushing out all air bubbles in the system
- B. zero against atmospheric pressure
- C. zero against ground level
- D. zero with regards to absolute zero pressure

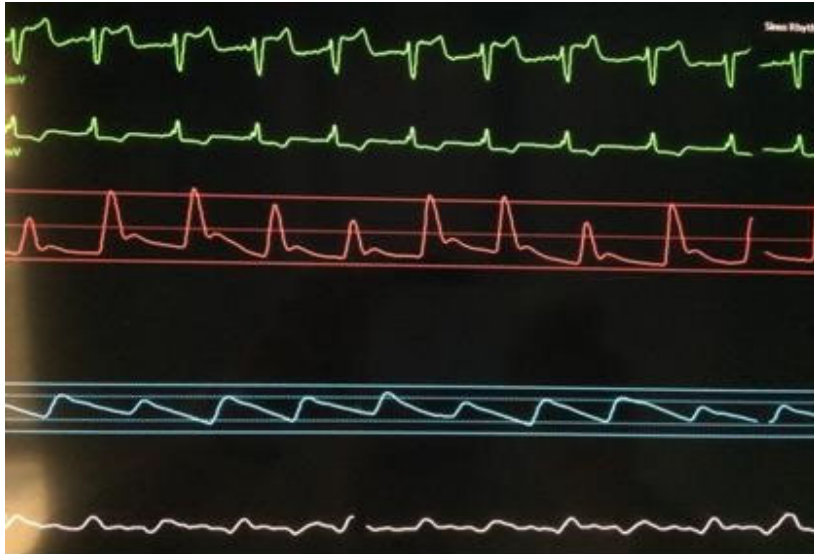
Q4c. In intra-arterial blood pressure monitoring, where should the pressure transducer be placed?

- A. level of 4th intercostal space at mid-axillary line
- B. level of external auditory meatus
- C. level of sternal angle
- D. same level as the saline bag

Q4d.



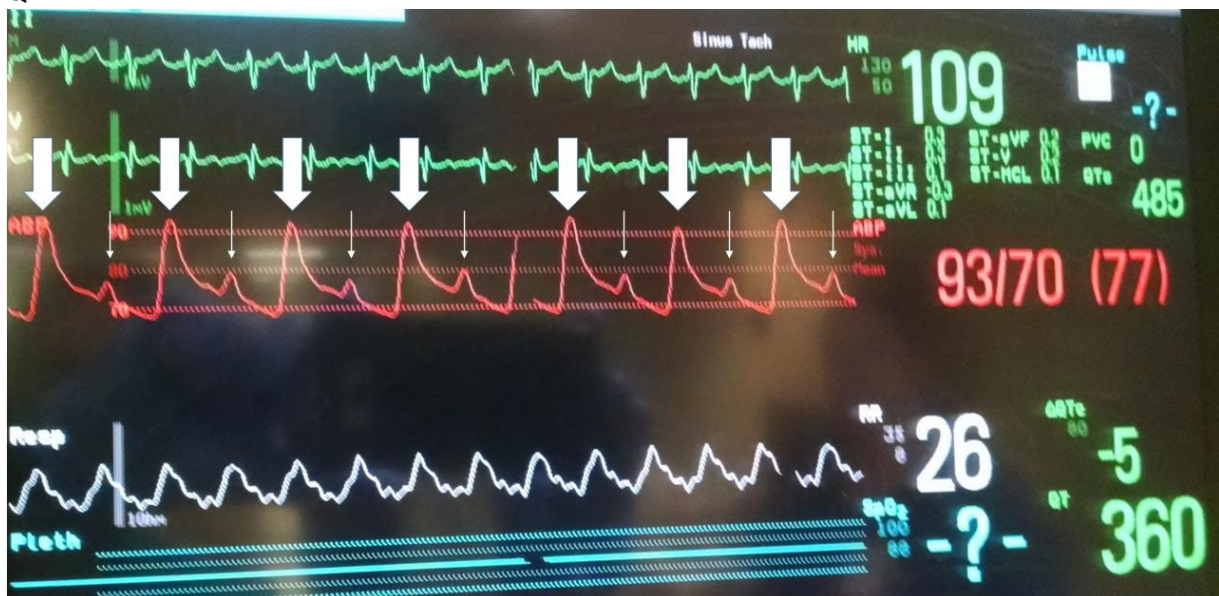
This picture shows an arterial blood pressure waveform, how is the mean arterial pressure measured?



Q4e.

Name 2 potential causes of this arterial pressure waveform.

Q4f.



Name the diagnosis in this arterial pressure waveform.