

Kahoot: M-Mode

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CVSG1240 Echocardiography Scanning Lab I • Concorde Career College Portland

A 15-question Kahoot covering M-mode physics, cursor placement, and the classic M-mode patterns through the LV, mitral valve, aortic valve, and tricuspid annulus (TAPSE).

1. M-mode displays:

- A. A 2D sector image
- B. A color overlay on grayscale
- C. Motion of a single scan line over time (**correct**)
- D. Spectral velocity over time

Answer: C.

2. The strength of M-mode versus 2D is its very high:

- A. Spatial resolution
- B. Lateral resolution
- C. Temporal resolution (**correct**)
- D. Color sensitivity

Answer: C.

3. On an M-mode strip, the vertical axis represents:

- A. Velocity
- B. Time
- C. Depth (**correct**)
- D. Frequency shift

Answer: C.

4. On an M-mode strip, the horizontal axis represents:

- A. Time (**correct**)
- B. Depth
- C. Velocity
- D. Angle

Answer: A.

5. The PLAX M-mode cursor should be placed perpendicular to the LV walls at the level of:

- A. The aortic root
- B. The mitral leaflet tips
- C. The mitral chordae, just below the leaflet tips (**correct**)
- D. The papillary muscles

Answer: C.

6. An M-mode cursor angled off-axis through the IV septum and LV posterior wall will cause:

- A. Artificially thinner walls
- B. Artificially thicker walls (**correct**)
- C. No change in measurement
- D. Loss of the ECG trace

Answer: B.

7. On an M-mode of the LV, IVSd, LVIDd, and LVPWd are measured at:

- A. The R-wave (end-diastole) (**correct**)
- B. The T-wave (end-systole)
- C. P-wave onset
- D. The middle of the diastolic plateau

Answer: A.

8. On an M-mode of the mitral valve, the anterior leaflet pattern includes which classic waves?

- A. E and A waves (**correct**)
- B. S and D waves
- C. P and Q waves
- D. A1 and A2 waves

Answer: A.

9. EPSS (E-point septal separation) on M-mode is a surrogate for:

- A. Pulmonary pressures
- B. Diastolic dysfunction grading
- C. LV systolic function (large EPSS suggests low EF) (**correct**)
- D. Right atrial pressure

Answer: C.

10. On M-mode through the aortic valve, the open cusps form a:

- A. Triangle
- B. Box (parallelogram) in systole (**correct**)
- C. Single line in diastole
- D. Sine wave

Answer: B.

11. The aortic-valve M-mode opening pattern is a useful surrogate for:

- A. RV systolic function
- B. LV stroke volume (small box suggests low SV) (**correct**)
- C. Pulmonary regurgitation severity
- D. LA pressure

Answer: B.

12. TAPSE is measured on M-mode at the:

- A. Mitral annulus, septal side
- B. Tricuspid annulus, lateral side (**correct**)
- C. RV apex
- D. Pulmonic annulus

Answer: B.

13. A normal TAPSE value is:

- A. Less than 5 mm
- B. 5 to 10 mm
- C. Greater than or equal to 17 mm (**correct**)
- D. Greater than 35 mm

Answer: C.

14. TAPSE is most commonly used as an indicator of:

- A. LV diastolic function
- B. RV systolic function (**correct**)
- C. Aortic stenosis severity
- D. Mitral regurgitation severity

Answer: B.

15. If your PLAX M-mode trace shows only dropouts and no clear walls, the best first adjustment is to:

- A. Reduce M-mode gain and increase 2D gain on the chest-wall side (**correct**)
- B. Switch to color Doppler
- C. Increase the depth
- D. Turn the ECG off

Answer: A.

Suggested Kahoot settings: 20 seconds per question; 30 seconds for #6, #9, #11.

Source: CVSG1240 Module 1 Lab 1 Protocol (Part 4: PLAX M-mode); ASE 2015 Chamber Quantification (Lang et al., JASE 28(1)); Rudski LG et al. 2010 (TAPSE).

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