

Advances in Cardiac CT

1. At the time the text was written, with advances in CCTA, the radiation dose approached the ____ millisievert range.
 - a. 0.50
 - b. 1
 - c. 1.5
 - d. 2
2. When was the first CCTA performed using electron beam CT?
 - a. 1960s
 - b. 1970s
 - c. 1980s
 - d. 1990s
3. What was the slice thickness of the first CCTA?
 - a. 1.0 – 2.0 mm
 - b. 1.5 – 2.0 mm
 - c. 1.5 – 2.5 mm
 - d. 1.5 – 3.0 mm
4. A 64- slice detector can cover about _____ of scan coverage.
 - a. 38mm
 - b. 37mm
 - c. 38mm
 - d. 40mm
5. Dual Source CT scanners have two sources of radiation with detectors set at ____ to each other.
 - a. 45 degrees
 - b. 60 degrees
 - c. 70 degrees
 - d. 90 degrees
6. Dual-source CT cuts image acquisition time by _____.
 - a. 50%
 - b. 55%
 - c. 60%
 - d. 65%
7. At the time the text was written, what was the major limitation of flat-panel CT?
 - a. Poor temporal resolution
 - b. Poor contrast resolution
 - c. Radiation dose
 - d. A & B
8. Typical MSCT detectors have solid-state _____ detectors.
 - a. Tungsten
 - b. Ceramic
 - c. Silicon
 - d. Carbon

9. MSCT detectors help convert x-rays to _____.
- Energy
 - Visible light
 - Spatial resolution
 - Image formation
10. What is one of the most important limitations in CCTA affecting overall accuracy?
- Slice thickness
 - Processing
 - Motion artifact
 - Image noise
11. What is defined as the ratio of mean coronary pressure distal to a coronary stenosis to the mean aortic pressure during maximal coronary blood flow?
- Fraction flow reserve
 - CT perfusion
 - Transluminal attenuation gradient
 - CT gradient
12. An FFR value of _____ or less suggests lesion-specific hemodynamic significance.
- 0.65
 - 0.70
 - 0.75
 - 0.80
13. Clinical trials demonstrated CT FFR has a higher diagnostic accuracy of _____ compared to invasive FFR in the identification of significant stenosis.
- 53%
 - 71%
 - 86%
 - 90%
14. Which of the following limits or affects FFR calculation with CT?
- Presence of heavy calcification
 - Motion artifacts
 - Presence of viable or scarred myocardium
 - All the above
15. Which of the following **is not** a pharmacologic stress agent for myocardial CT perfusion?
- Adenosine
 - Dipyridamole
 - Iodine
 - Regadenosin
16. True or false. The two ways to set up a stress and rest myocardial CT perfusion protocol is the stress phase first followed by the rest phase, or vice versa.
- True
 - False
17. What modality/method is based on the contrast attenuation difference across a stenosis which may predict functional significance?
- Transluminal attenuation gradient (TAG)
 - Perfusion CT
 - FFR
 - SPECT