

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. 36mm
 - 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 _____.
a. Energy
b. Visible light
c. Spatial resolution
d. Image formation
10. What is one of the most important limitations in CCTA affecting overall accuracy?
a. Slice thickness
b. Processing
c. Motion artifact
d. 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?
a. Fraction flow reserve
b. CT perfusion
c. Transluminal attenuation gradient
d. CT gradient
12. An FFR value of _____ or less suggests lesion-specific hemodynamic significance.
a. 0.65
b. 0.70
c. 0.75
d. 0.80
13. Clinical trials demonstrated CT FFR has a higher diagnostic accuracy of _____ compared to invasive FFR in the identification of significant stenosis.
a. 53%
b. 71%
c. 86%
d. 90%
14. Which of the following limits or affects FFR calculation with CT?
a. Presence of heavy calcification
b. Motion artifacts
c. Presence of viable or scarred myocardium
d. All the above
15. Which of the following **is not** a pharmacologic stress agent for myocardial CT perfusion?
a. Adenosine
b. Dipyridamole
c. Iodine
d. 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.
a. True
b. False
17. What modality/method is based on the contrast attenuation difference across a stenosis which may predict functional significance?
a. Transluminal attenuation gradient (TAG)
b. Perfusion CT
c. FFR
d. SPECT