

# Electron Beam Computed Tomography for Evaluation of Coronary Artery Disease

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This month's quiz is based on the article "Role of Electron Beam Computed Tomography in Detecting and Assessing Coronary Artery Disease," which begins on page 11 of this issue. Choose the single best answer for each question.

- In which of the following patients would electron beam computed tomography (EBCT) be beneficial for diagnosis of coronary artery disease (CAD)?**
  - A 20-year-old man presenting for medical clearance prior to beginning sports
  - A 30-year-old woman who is anxious and has atypical chest pain that occurs after anxiety
  - A 55-year-old hypertensive man with atypical chest pain who presents to the emergency department (ED)
  - A 65-year-old man with diabetes, a history of smoking, and typical anginal chest pain
  - A 70-year-old man with known CAD presenting with typical anginal chest pain
- A 60-year-old woman with diabetes mellitus presents to the ED with atypical chest pain. Her electrocardiogram is normal. EBCT for evaluation of CAD is performed and reveals a calcium score of 455. What is the most appropriate next step?**
  - Discharge patient home and ask her to follow-up with her primary care provider
  - Discharge patient home with pain control medications; no follow-up necessary
  - Observe the patient overnight and discharge her home the next day if asymptomatic
  - Perform nonemergent further evaluation (stress test or coronary angiography), depending on the clinical scenario
  - Arrange for immediate coronary angiography
- What is the approximate charge for EBCT?**

(A) \$75	(D) \$2000
(B) \$350	(E) \$5000
(C) \$1000	
- Which of the following statements comparing EBCT with multi-detector row computed tomography (MDCT) is true?**
  - Calcium scores obtained by EBCT and MDCT are comparable
  - MDCT exposes the patient to a lower radiation dose than EBCT
  - MDCT is much more widely available than EBCT
  - Most clinical research on the value of calcium scoring has been done on MDCT
  - EBCT and MDCT are technically similar
- A 30-year-old woman with a history of smoking who has atypical chest pain undergoes EBCT. The calcium score is 0. What is the most appropriate next step?**
  - Reassurance and smoking cessation counseling
  - Referral to cardiology for further work-up of chest pain
  - Anti-anginal medications
  - Stress test
  - Repeat EBCT test
- Which of the following statements regarding the strengths and limitations of EBCT is the most accurate?**
  - EBCT is an excellent tool for evaluation of patients at low risk of disease
  - EBCT is too expensive to be used in patients who may benefit from the test
  - EBCT does not provide information on the physiologic significance of a coronary plaque
  - Calcium scores are similar across different ethnicities and can be employed without racial considerations
  - Third-party payer reimbursement has been very good for the EBCT test for coronary calcification screening

For answers, see page 18.

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**Answers to the Clinical Review Quiz that appears on page 51. The article on electron beam computed tomography begins on page 11.**

1. (C) A 55-year-old hypertensive man with atypical chest pain who presents to the ED
2. (D) Perform nonemergent further evaluation (stress test or coronary angiography), depending on the clinical scenario
3. (B) \$350
4. (C) MDCT is much more widely available than EBCT
5. (A) Reassurance and smoking cessation counseling
6. (C) EBCT does not provide information on the physiologic significance of a coronary plaque

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