

Cardiac CaScore Only

Siemens 16 Slice

Application Examples: evaluate coronary arteries for calcified plaque	
Oral Contrast	No
IV Contrast / Volume	No
Nitroglycerin	No

Technical Factors

DS_CaScore_Seq	
Scan Type	Sequential
Detector Collimator	Acq 16 x 1.2 mm
kV / mAs / Rotation Time < 180 lbs	110 kV / 50 mAs / Quick 0.35 seconds
kV / mAs / Rotation Time > 180 lbs	130 kV / 50 mAs / Quick 0.35 seconds
Care Dose 4D	Off
Feed	19.2 mm
Typical CTDIvol < 180 lbs	3.62 mGy
Typical CTDIvol > 180 lbs	5.63 mGy

Topogram: AP and Lateral, 512 mm

Calcium Score	Width / Increment	Kernel	Window	FoV	Series Description	Heart Phase	Networking
Recon 1	2.4	B35s	Mediastinum	≥150	Calcium Score	per HR	PACS & TR
Recon 2	2.4	B30s	Mediastinum	-	AXIAL	per HR	PACS

Patient Preparation

Explain the procedure to the patient and complete a general assessment.

Patient Position

Patient lying supine with arms comfortably above head. Bring arms up before placing leads.

Patch and ECG lead placement

The correct placement of the ECG electrodes is essential to obtaining a clear ECG signal. Incorrect placement of electrodes will result in an unstable ECG signal which is sensitive to patient movement. **Be sure to place leads and connect to scanner before entering patient information into scanner. The leads plug into bottom of table.**

- Expose patient's chest to place ECG patches.
- Clean all four areas of the patient's skin where ECG patches will be placed with an alcohol wipe and allow time to dry. Because the electrical signal produced by the heart and detected at the body's surface is so small, it is very important that the electrode patch makes good contact with the skin. Patients with excessive amounts of body hair may need to be shaved and then cleansed to allow for a better connection.
- Place patches on the patient's chest in the following locations:
 - directly below mid right clavicle
 - directly below mid left clavicle
 - slightly lateral to right lower ribs
 - slightly lateral to left lower ribs
- Attach electrodes to patches as depicted below:



White: right upper (RU)
Green: right lower (RL)
Black: left upper (LU)
Red: left lower (LL)

5. If ECG tracing is unstable, try the following until a good rhythm is detected.

1. Varying sensor channels between I, II or III.
2. Apply two new lower patches moving placement medially.
3. Replace all four patches.

*If still unsuccessful, contact CT cardiac reader.

6. When ECG tracing is satisfactory, reiterate the importance of remaining still from this point forward. Patient motion will impair image quality:

- Patient motion will affect ECG tracing. Exposures are made according to this tracing, and therefore if unreliable due to patient motion, machine could expose at ill-times.
- Movement will also adversely affect images by causing distortion artifacts.

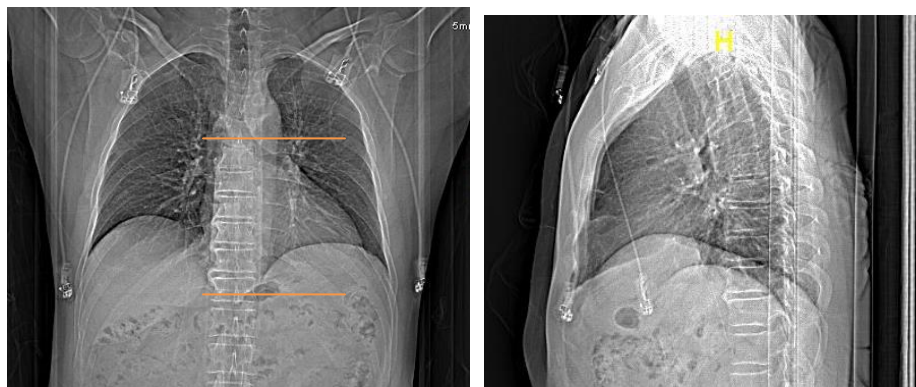
Patient breathing instructions

Clear and specific breathing instructions are imperative for a successful study.

Instruct the patient to take a nice, easy breath in and hold it. It is important to coach the patient not to take a deep inspiration as the patient may move out of the set scan range. *Practice* this breath hold technique with the patient before scanning.

Scan Range

Scan range will be approximately at the level of carina through apex of heart to include entire heart anatomy as depicted below.



Scan Card: Adjust kVp and mAs (if needed) according to body habitus.

Trigger Card: Place phase start just before p wave, at diastole phase. If heart rate is irregular, set to 55. Make sure blue mark is on flat portion of heart rhythm.

Recons: Adjust Recon 1 FoV to fit heart snugly. Adjust Recon 2 to fit entire chest. Recon 1 is read by the Cardiologist and recon 2 is read by the Radiologist.

Networking: Send topogram, calcium score and ECG calcium score series to TeraRecon. The following image series are sent to PACS under EPIC codes:

Epic: CT Heart without contrast for Calcium Score

Series: Topogram
Calcium Score
ECG Calcium Score
Patient Protocol

Epic: CT Chest Overread for Cardiac Studies

Series: Topogram
AXIAL