



SUBJECT: CT Cardiac Gated Chest with Smart Prep 5.23

Effective: 10/2013
Reviewed: 03/07/2017

APPROVED BY: **Body Imaging Medical Director**

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Purpose: To provide computed tomography staff with the required protocol for performing CT Cardiac Gated Chest with Smart Prep.

Scope: All adult patients 18 years and older.

Clinical Indication: Aortic Root Disease

Patient Preparation: Clear liquid diet (6 hours prior to exam)

Orientation: Feet first

Breathing: Inspiration

Oral Contrast: None

IV Contrast per Weight: 1ml/lb or 2ml/kg not to exceed 150ml injected @ 5ml/sec

Coverage: Lung apices through lung bases

Anatomic Reference: Sternal notch

Scan Delay: Smart prep or care bolus

Scanning Parameters

Scan Time-Cardiac Segment 0.35

Thick Speed-0.625, 6.40, 0.16.1

Interval- 0.625

Gantry Tile-0

SFOV-Cardiac Large

KV-120

MA-ECG 600 75-75

Injection Set Up

Use Cardiac Time Bolus

	Flow	Volume	Duration
A	5.0	50	00:10 sec
%	5.0	visi 60% =50 Saline 40%	00:10 sec
B	5.0	40	00:08 sec

Supplies Needed

Gown

Cardiac Trigger Monitor

18 or 20 Gauge IV heplock (Antecubital if possible)

Cardiac Leads (Electrodes)

Visipaque 100ml bottle

Saline flush 100cc



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Set Up

1. Heart monitor pulled out. Check to make sure all plugs are connected and working



2. Place patient in gown.
3. Explain procedure to patient.
4. Place patient supine feet first if possible.
5. Start large IV (18g or 20g) in Antecubital.



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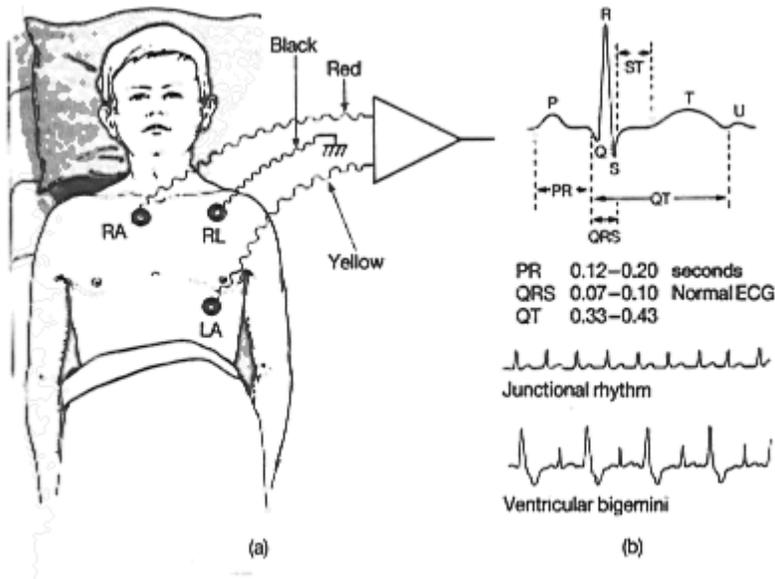
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6. Place leads on patient as shown in diagram.



7. Bring both arms above head. Make sure patient is calm and comfortable.

8. Turn heart monitor on by hitting on/off button. [Heart rates above 75](#)



9. Set patient up with inside or outside light on the sterna notch. Ex. (Routine Chest)

10. Explain to patient that the machine will be very loud.

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11. Practice breathing with the patient (Breath holds can be up to 20 seconds long or more).

Scanning

1. Pull protocol up and do scouts.
2. Make sure breath hold is on.
 - A. Click on Voice Light Timer
 - B. Click on Cardiac
 - C. Click on Breathing Light
 - D. Click on Timer
3. After all steps are done, it will say 4T.
4. Set localizer lines on patient. From top of apex of chest down to the bottom of the heart. Make sure all vessels are included on the bottom of the heart.
5. Once lines are set up, place smart prep line ½ in. below bifurcation.
6. Practice breathing with patient to see the heart rate drop and to use the pitch that's set for that heart rate.
7. Once pitch has drop to the correct heart rate setting click Confirm to lock in on that parameter.

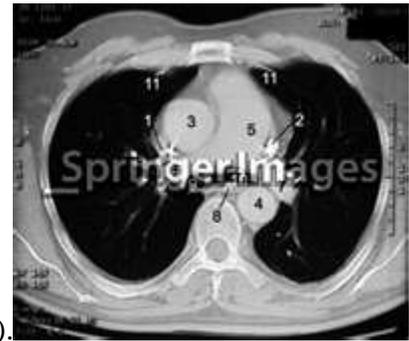


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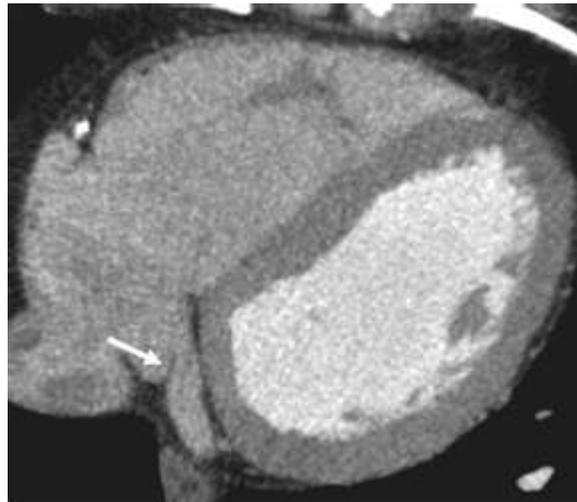
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8. Scan smart prep image. Place ROI on the Ascending Aorta (#3).
9. Click on confirm. Start contrast and scan at the same time.
10. Once the contrast peaks across the threshold, you are ready to scan.
11. Once scan is complete, you are now ready to do Recons of images.

Note: Please note that the contrast seen on the images will appear brighter on the left side of the heart.



That will be considered a good study.

How to Recon Images (Setting up All Phases)

1. Click on Retro Recon.

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2. Select patient that you have scanned.
3. Select scan series.
4. Click on the Rx
5. Type in the number (5) for your Start phase %.
6. Type in the number (95) for your End phase %.
7. Click on 10 Interval
8. Click OK.
9. For start location, type in the image number that corresponds to the image that's and inch below apex .
10. For end location, type in the image number that corresponds to the bottom of the heart.
11. Click on confirm.

Message: Image exceeds image amount.

If you get this message, the machine will readjust your phases to get your images processed.

Regular scans goes to Pac and Recons goes to workstations.

Images



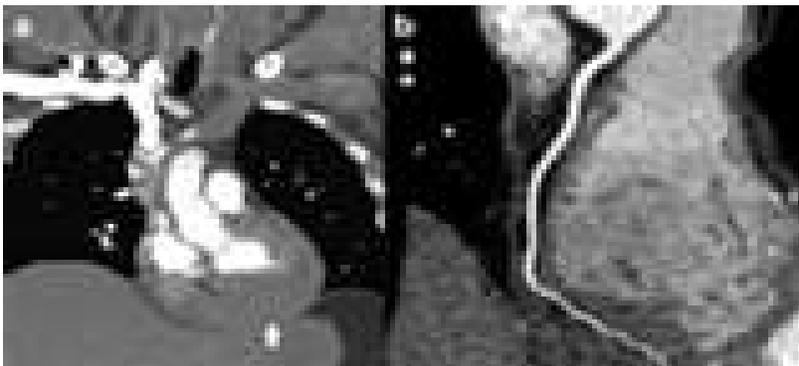
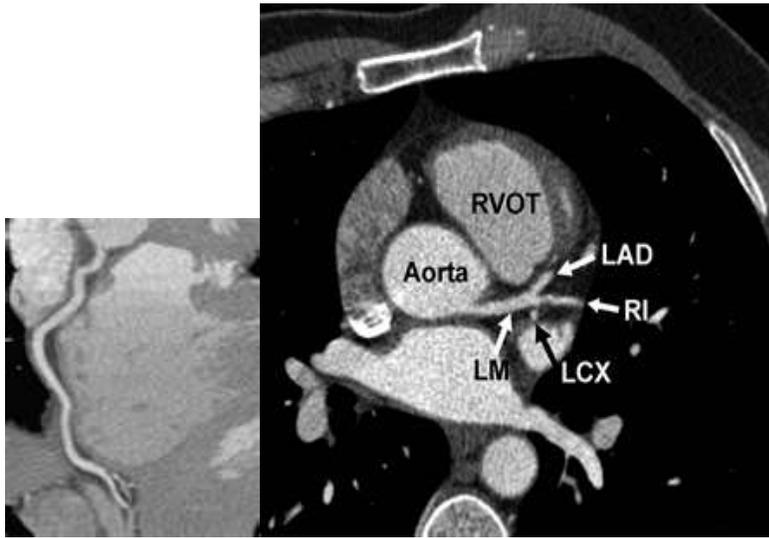
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