

Clinical Instructions

Indication

Suspicion or evaluation of polyps or other abnormalities within the colon.

Oral Contrast

None

Pre-Scan Instructions

Make sure the patient has been prepped properly. Encourage use of restroom.

Place the patient on the CT table on their left side to insufflate the colon with CO₂, left decubitus for ~ 1.5 liters, right decubitus for another 2.0-2.5 L for a total volume of 3.5-4.0 L, and then roll supine and assess for equilibrium pressures. If equilibrium pressures present, then scan supine series. Please be sure that carbon dioxide remains continuously infusing throughout the scan.

If the patient cannot lie on their stomach for the prone series, you can go straight to the Right Lateral Decubitus series after the supine series and add the Left Lateral if needed.

■ Proper positioning for the decubitus portion of the CTC screening exam

Just as patient positioning is critical in our routine supine and prone exams, it is also critical in the decubitus portion of our virtual colonoscopy screening exam. To provide the best image quality at the lowest dose, proper patient centering in the scanner gantry is critically important.

You cannot simply have the patient roll to their side, this will leave their pelvis in an off center position! You must have the patient roll and then confirm that they have shifted their pelvis back to the scanner of the couch. **Roll and shift!** Aim to get the patient's ilium bones centered in the scanner.

Note, it is also possible that after proper positioning, the patient may tilt to the side before the scan. Tilting to the side is a natural response to being placed in the decubitus position. Please watch for this and instruct the patient to return to the proper position.

Poor Position

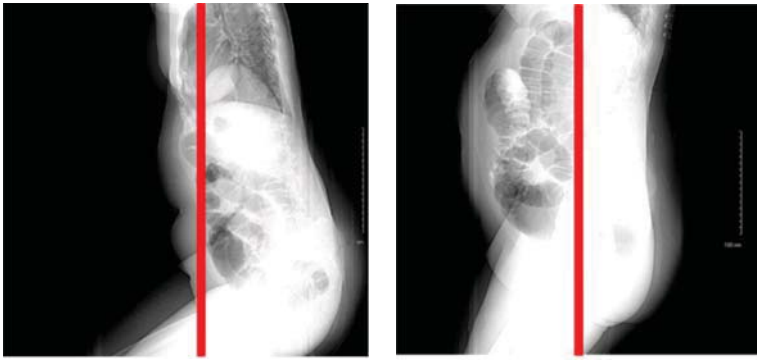


Bad Looking Scout

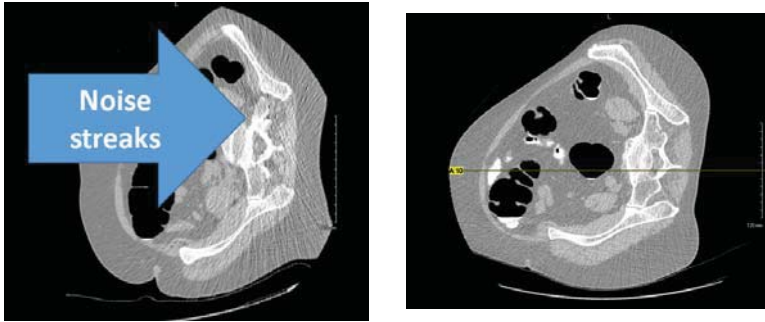
Good Position



Good Looking Scout



Resulting Bad Looking Image Resulting Good Looking Image



Bone Density Scanning

- Supine Only: Invert patient toes, include lesser trochanters. Recon 3 is Pelvis only 2.5 x 2.5 (send to QCT-HIP)

IV Contrast Parameters

None

Field of View

Same as previous study or as small as appropriate

Scan Description

Scan is performed supine and prone.

- Series 1 - PA & Lateral supine scouts: top of the diaphragm through pubic symphysis
- Series 2 - Supine – Start above the highest flexure of the colon and scan through the rectum. Review images to check for proper colonic distention, pay special attention to sigmoid distention.
- Series 3 – Prone scouts: top of diaphragm through pubic symphysis.
 - After the scout deflate the balloon before scanning.
- Series 4 – Prone – Start above the highest flexure of the colon and scan though the rectum. Review images to check for proper colonic distention.
- Consider right decubitus Series 5 and 6 (Scout and Scan) if areas of sigmoid collapse are present on both views. These series are built into the protocol, you do not have to repeat series.

Reformat Instructions

Use DMPR on THIN ST.

Reformats

Name	Source Recon	DMPR or Manual	Type (MIP, Average, etc.)	WW/WL	Slice Thickness (mm)	Interval (mm)	Orientation
SA BODY	THIN ST	DMPR	Average	450/50	5	2.5	sagittal
CO BODY	THIN ST	DMPR	Average	450/50	5	2.5	coronal

Networking

The 5mm images (Recon 2) and scouts are networked to ALI_Store - network the 1.25mm images from series 2 & 4 (& 5) to these 3 places V3D3_NEW, V3D_Backup, and ALI-Source. The Bone Density Recon 3 is sent to QCT-HIP. Note: if smartprep is used, please also send the screen save (Series 99) of the smartprep locations and enhancement curve.

Miscellaneous

Acquisition Parameters

Series 1, Scout

	Small	Medium	Large
Scout 1 kV	100	120	140
Scout 1 mA	10	10	10
Scout 1 Angle	180	180	180
Scout 2 kV	100	120	140
Scout 2 mA	40	40	80
Scout 2 Angle	90	90	90
WW/WL for Scout	500/50	500/50	500/50

Series 2, Scan Phase

	Small	Medium	Large
Scan Type	Helical	Helical	Helical
Beam Collimation	40	40	40
Detector Rows	64.0	64.0	64.0
Detector Configuration	64x0.625	64x0.625	64x0.625
Scan FOV	Medium Body	Large Body	Large Body
Pitch	1.375	1.375	1.375
Speed (mm/rot)	55.00	55.00	55.00
Rotation Time (s)	0.4	0.4	0.4
kV	120	120	120
AEC type	smart mA	smart mA	smart mA
mA Range	(30-420)	(30-420)	(30-420)
Manual mA	150	150	150
Noise Index	28.0	28.0	28.0
Slice Thickness (mm)	5	5	5
Interval (mm)	3.0	3.0	3.0

Series 2, Recons

	Small	Medium	Large
Recon 1			
DFOV	40	40	50
Recon Type	Standard	Standard	Standard
WW/WL	450/50	450/50	450/50
Recon Option	Plus	Plus	Plus
Recon Option			
ASIR Setup	Slice 40%	Slice 40%	Slice 40%
Slice Thickness (mm)	5.0	5.0	5.0
Interval (mm)	3.0	3.0	3.0
Recon 2			
DFOV	30	40	50
Recon Type	Standard	Standard	Standard
WW/WL	2000/0	2000/0	2000/0
Recon Option	Plus	Plus	Plus
Recon Option	IQ Enhance	IQ Enhance	IQ Enhance
ASIR Setup	None	None	None
Slice Thickness (mm)	1.25	1.25	1.25
Interval (mm)	0.625	0.625	0.625

Series 3, Scout

	Small	Medium	Large
Scout 1 kV	100	120	140
Scout 1 mA	10	10	10
Scout 1 Angle	180	180	180
Scout 2 kV	100	120	140
Scout 2 mA	40	40	80
Scout 2 Angle	90	90	90
WW/WL for Scout	500/50	500/50	500/50

Series 4, Scan Phase

	Small	Medium	Large
Scan Type	Helical	Helical	Helical
Beam Collimation	40	40	40
Detector Rows	64.0	64.0	64.0
Detector Configuration	64x0.625	64x0.625	64x0.625
Scan FOV	Medium Body	Large Body	Large Body
Pitch	1.375	1.375	1.375
Speed (mm/rot)	55.00	55.00	55.00
Rotation Time (s)	0.4	0.4	0.4
kV	120	120	120
AEC type	smart mA	smart mA	smart mA
mA Range	(30-420)	(30-420)	(30-420)
Manual mA	150	150	150
Noise Index	68.0	68.0	68.0
Slice Thickness (mm)	1.25	1.25	1.25
Interval (mm)	0.625	0.625	0.625

Series 4, Recons

	Small	Medium	Large
Recon 1			
DFOV	30	40	50
Recon Type	Standard	Standard	Standard
WW/WL	2000/0	2000/0	2000/0
Recon Option	Plus	Plus	Plus
Recon Option	IQ Enhance	IQ Enhance	IQ Enhance
ASIR Setup	None	None	None
Slice Thickness (mm)	1.25	1.25	1.25
Interval (mm)	0.625	0.625	0.625

Series 5, Scout

	Small	Medium	Large
Scout 1 kV	100	120	140
Scout 1 mA	10	10	10
Scout 1 Angle	180	180	180
Scout 2 kV	100	120	140
Scout 2 mA	40	40	80
Scout 2 Angle	90	90	90
WW/WL for Scout	500/50	500/50	500/50

Series 6, Scan Phase

	Small	Medium	Large
Scan Type	Helical	Helical	Helical
Beam Collimation	40	40	40
Detector Rows	64.0	64.0	64.0
Detector Configuration	64x0.625	64x0.625	64x0.625
Scan FOV	Medium Body	Large Body	Large Body
Pitch	1.375	1.375	1.375
Speed (mm/rot)	55.00	55.00	55.00
Rotation Time (s)	0.4	0.4	0.4
kV	120	120	120
AEC type	smart mA	smart mA	smart mA
mA Range	(30-420)	(30-420)	(30-420)
Manual mA	150	150	150
Noise Index	68.0	68.0	68.0
Slice Thickness (mm)	1.25	1.25	1.25
Interval (mm)	0.625	0.625	0.625

Series 6, Recons

	Small	Medium	Large
Recon 1			
DFOV	30	40	50
Recon Type	Standard	Standard	Standard
WW/WL	2000/0	2000/0	2000/0
Recon Option	Plus	Plus	Plus
Recon Option	IQ Enhance	IQ Enhance	IQ Enhance
ASIR Setup	None	None	None
Slice Thickness (mm)	1.25	1.25	1.25
Interval (mm)	0.625	0.625	0.625