

CT Catalyst Shoulder

Updated 09/25/25

Reviewed 09/25/25

Indications - pre surgical evaluation for shoulder joint replacement.

Bill under CT Shoulder w/o Contrast charge.

GENERAL SCAN NOTES

Remove any metal from the imaging field of view.

Arms in neutral position by patient's side.

Topogram - from above top of shoulder to proximal humerus.

Craniocaudal scan coverage - from above top of clavicle to proximal humerus.

Include entire ipsilateral scapula in FOV.

Matrix must be 512 x 512.

IV Contrast: not given for this protocol.

For **GE scanners**, it is essential for the 1st recon thickness on the scanner to match the 1st recon thickness in this protocol book for the prescribed Noise Index to be valid. The 1st recon should generally be the thickest recon in the protocol.

SIEMENS PARAMETERS & RECONS

	Scan Mode	kV	mAs	Care Dose	Care kV & Lvl	Pitch	Acq	Coll	Rot Time	Scan Time
Sensation 16	spiral	120	150	on	NA	0.80	16	0.75	1.0	10.4
Go Up 32	spiral	130	84	on	on 130	0.80	32	0.7	1.0	5.6
Sensation 64	spiral	120	150	on	NA	0.90	64	0.6	1.0	5.8
Definition 64	spiral	120	165	on	on	0.80	64	0.6	1.0	6.5
Go Top 64	spiral	130	100	on	on 130	0.80	64	0.6	1.0	3.3
Drive 128	spiral	120	116	on	on	0.80	128	0.6	1.0	3.3
Force 192	spiral	120	116	on	on	0.80	192	0.6	1.0	2.2

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX BONE	3.0	3.0	Br59 / B60f	bone/osteo	3	head/feet
COR BONE	3.0	3.0	Br59 / B60f	bone/osteo	3	front/back
SAG BONE	3.0	3.0	Br59 / B60f	bone/osteo	3	left/right
AX SOFT	3.0	3.0	Br40 / B31f	abdomen	3	head/feet
AX THINS	0.625	0.5	Br40 / B31f	bone/osteo	3	head/feet

Catalyst specific recon.

If the scan parameters do not allow for 0.625 mm thickness, pick as close to 0.5 mm as the scanner will allow but no thicker than 1.0 mm. The interval cannot be thicker than 0.5 mm.

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GE PARAMETERS & RECONS

	Scan Type	SFOV	kV	mA Range	Noise Index	Smart mA	Slice Thick	Beam Coll	Pitch	Speed	Rot Time	Dose Red	ASIR	Scan Time
LS 16	helical	large	120	100-440	12.50	on	2.5	10	0.938	9.37	0.5	NA	NA	5.3
Opt 540	helical	large	120	100-440	12.50	on	2.5	10	0.938	9.37	0.5	NA	NA	5.3
LS VCT 64	helical	large body	120	100-450	16.00	on	2.5	40	0.984	39.37	0.5	20	20	1.3
Disc VCT 64	helical	large body	140	100-610	14.14	on	2.5	40	0.516	20.625	0.6	NA	NA	2.9

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX BONE	2.5	2.5	bone full	2500/480	head/feet
COR BONE	2.5	2.5	bone full	2500/480	front/back
SAG BONE	2.5	2.5	bone full	2500/480	left/right
AX SOFT	2.5	2.5	std full	400/40	head/feet
AX THINS	0.625	0.5	std full	2500/480	head/feet

Must be first recon.

Catalyst specific recon.

If the scan parameters do not allow for 0.625 mm thickness, pick as close to 0.5 mm as the scanner will allow but no thicker than 1.0 mm. The interval cannot be thicker than 0.5 mm.

PHILIPS PARAMETERS & RECONS

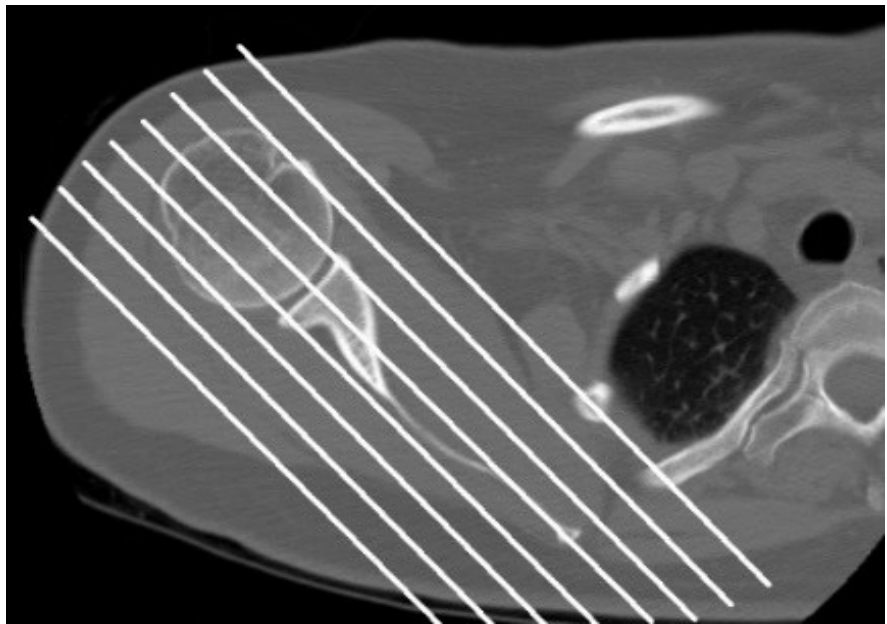
	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	129	22	on	0.80	64	0.625	1.00	3.1

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX BONE	3.0	3.0	YC	bone	3	head/feet
COR BONE	3.0	3.0	YC	bone	3	front/back
SAG BONE	3.0	3.0	YC	bone	3	left/right
AX SOFT	3.0	3.0	B	abdomen	3	head/feet
AX THINS	0.625	0.5	B	bone	3	head/feet

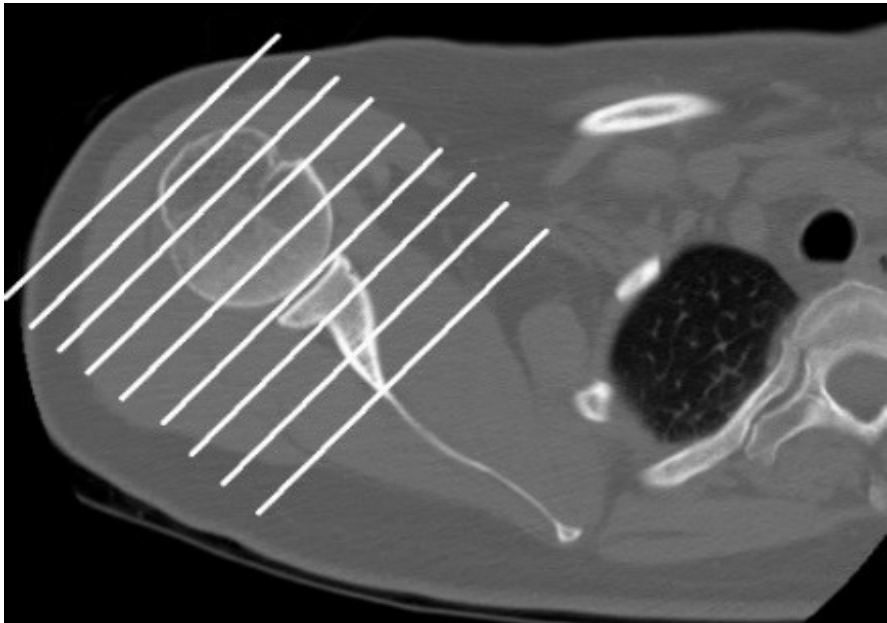
Catalyst specific recon.

If the scan parameters do not allow for 0.625 mm thickness, pick as close to 0.5 mm as the scanner will allow but no thicker than 1.0 mm. The interval cannot be thicker than 0.5 mm.

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Coronal Plane



Sagittal Plane



CT PROTOCOL REFERENCE CARD

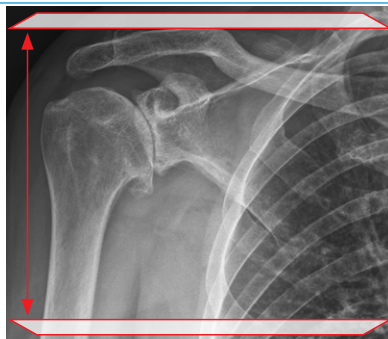
PATIENT POSITION

When positioning the patient, ensure the patient is in supine position (SFF: Supine, Feet First). Additionally, ensure the patient's shoulders and arms are in a natural position, with the arms lying alongside the body. The patient shall not move during the scan procedure.

ANATOMY TO SCAN

When scanning the patient, be certain the scan captures the entire scapula and proximal humerus, from the acromioclavicular joint to the bottom end of the scapula. The acromion and coracoid are also required for the scan.

SCAN PARAMETERS

Scan Type	CT Scan without contrast (no arthrography)
Axial Slice Thickness	Slice thickness: 0.5mm is preferred; 1.0mm is acceptable Slice increment: 0.0mm - 0.5 mm Slice increment should NOT be greater than the slice thickness
Field Of View (FOV)	FOV includes the whole scapula and the proximal humerus. It starts a few slices above the AC joint. 
DO NOT	Inject contrast product Change the coordinates system during the acquisition Change the image parameters Merge several CT scan acquisitions into one
Matrix	512 x 512
Reconstruction Parameters	Standard algorithm without edge enhancement Bone filter is suitable Any filter beneficial to the diagnosis (e.g., metal artifact reduction) can be additionally calculated No gantry tilt No oblique reconstructions

DATA FORMAT

The CT scan must be exported as a primary scan in DICOM format without compression, axial slices only.

ADDITIONAL REQUIREMENTS

The original data must be archived by the radiology center.

Anonymization of images is kept at the discretion of the hospital policy. Patient's data will be pseudonymized when fed into the software (first 3 letters of last name, first 3 letters of first name).