

CT Lumbar Spine

Updated 05/03/25

Reviewed 05/14/25

Indications - pain, trauma, fracture, stenosis, spondylosis, spondylolisthesis, radiculopathy, extremity weakness, extremity paresthesia, disc rupture, disc herniation, mass, infection, pre/post surgical evaluation.

GENERAL SCAN NOTES

Move patient's arms over head if possible. Remove any metal from the imaging field of view.

Topogram - T12 through bottom of SI joints.

Craniocaudal scan coverage - T12 through bottom of SI joints.

Adjust FOV (field of view) on topogram to smallest without cropping anatomy.

IV Contrast: 100 mL Omnipaque-300, inject at 2.5 mL/sec, 60 secs scan delay.

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	300	on	NA	0.80	16	1.5	0.75	11.7
Go Up 32	spiral	130	182	on	on 285	0.80	32	0.7	1.0	16.7
Sensation 64	spiral	120	300	on	NA	0.90	64	0.6	1.0	17.4
Definition 64	spiral	120	330	on	on	0.80	64	0.6	1.0	19.5
Go Top 64	spiral	120	219	on	on 285	0.80	64	0.6	1.0	9.8
Drive 128	spiral	120	232	on	on	0.80	128	0.6	1.0	9.8
Force 192	spiral	130	193	on	on	0.80	192	0.6	1.0	6.5

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX SOFT	3.0	3.0	Br40 / H31s	abdomen	3	head/feet
AX BONE	3.0	3.0	Br59 / H70s	bone/osteo	3	head/feet
COR BONE	3.0	3.0	Br59 / H70s	bone/osteo	3	front/back
SAG BONE	3.0	3.0	Br59 / H70s	bone/osteo	3	left/right

Send the above recons on the pre contrast scan (if without only) or on the post contrast scan (if IV given).

Send only the following recon on the pre contrast scan (if without and with).

AX SOFT PRE	3.0	3.0	Br40 / H31s	abdomen	3	head/feet
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The axial, coronal and sagittal recons are relative to the plane of the spine and may not necessarily be true axial, coronal and sagittal planes.

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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	13.50	on	2.5	20	1.375	27.50	0.5	NA	NA	5.5
Opt 540	helical	large	120	100-440	13.50	on	2.5	20	1.375	27.50	0.5	NA	NA	5.5
LS VCT 64	helical	large body	120	100-450	16.00	on	2.5	40	1.375	55.00	0.5	20	20	2.7
Disc VCT 64	helical	large body	120	100-450	16.00	on	2.5	40	1.375	55.00	0.5	NA	NA	2.7

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX SOFT	2.5	2.5	std full	400/40	head/feet
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

Must be first recon.

Send the above recons on the pre contrast scan (if without only) or on the post contrast scan (if IV given).

Send only the following recon on the pre contrast scan (if without and with).

AX SOFT PRE	2.5	2.5	std full	400/40	head/feet
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PHILIPS PARAMETERS & RECONS

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	162	24	on	1.00	64	0.625	0.75	5.6

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

Send the above recons on the pre contrast scan (if without only) or on the post contrast scan (if IV given).

Send only the following recon on the pre contrast scan (if without and with).

AX SOFT PRE	3.0	3.0	B	abdomen	3	head/feet
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The axial, coronal and sagittal recons are relative to the plane of the spine and may not necessarily be true axial, coronal and sagittal planes.