

CT Peds Lumbar Spine

Updated 05/04/24

Reviewed 05/15/25

Indications - pain, trauma, fracture, extremity weakness, mass, infection.

NEVER perform a multiphase or without and with exam on a pediatric patient unless approved by a rad.

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: Weight-based Omnipaque-300, inject at 2 mL/sec, 22-gauge or larger, 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	90	on	NA	0.80	16	1.5	0.75	11.7
Go Up 32	spiral	110	174	on	on 285	1.50	32	0.7	1.0	8.9
Sensation 64	spiral	120	40	on	NA	0.90	64	0.6	1.0	17.4
Definition 64	spiral	120	165	on	on	0.80	64	0.6	1.0	19.5
Go Top 64	spiral	100	366	on	on 285	1.50	64	0.6	1.0	5.2
Drive 128	spiral	120	116	on	on	0.80	128	0.6	1.0	9.8
Force 192	spiral	120	116	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 / B30s	abdomen	3	head/feet
AX BONE	3.0	3.0	Br59 / B60s	bone/osteo	3	head/feet
COR BONE	3.0	3.0	Br59 / B60s	bone/osteo	3	front/back
SAG BONE	3.0	3.0	Br59 / B60s	bone/osteo	3	left/right

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

For **LightSpeed 16** and **Optima 540** scanners:

	Scan Type	SFOV	kV	mA Range	Noise Index	Smart mA	Slice Thick	Beam Coll	Pitch	Speed	Rot Time	Scan Time
0-20 lbs (0-9 kgs)	helical	small	80	65-130	7.07	on	2.5	20	0.938	18.75	0.5	14.1
21-60 lbs (9-27.2 kgs)	helical	small	100	80-160	9.90	on	2.5	20	0.938	18.75	0.5	14.1
61-100 lbs (27.3-45.4 kgs)	helical	large	120	95-190	14.14	on	2.5	20	0.938	18.75	0.5	14.1
101-200 lbs (45.5-90.7 kgs)	helical	large	120	110-220	16.97	on	2.5	20	0.938	18.75	0.5	14.1
>200 lbs (>90.8 kgs)	helical	large	120	125-300	21.21	on	2.5	20	0.938	18.75	0.5	14.1

For **LightSpeed & Discovery VCT 64** scanners:

0-20 lbs (0-9 kgs)	helical	ped body	80	65-130	7.07	on	2.5	40	0.938	39.37	0.5	7.0
21-60 lbs (9-27.2 kgs)	helical	ped body	100	80-160	9.90	on	2.5	40	0.938	39.37	0.5	7.0
61-100 lbs (27.3-45.4 kgs)	helical	med body	120	95-190	14.14	on	2.5	40	0.938	39.37	0.5	7.0
101-200 lbs (45.5-90.7 kgs)	helical	large body	120	110-220	16.97	on	2.5	40	0.938	39.37	0.5	7.0
>200 lbs (>90.8 kgs)	helical	large body	120	125-300	21.21	on	2.5	40	0.938	39.37	0.5	7.0

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.

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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	94	23	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	2	head/feet
AX BONE	3.0	3.0	YC	bone	2	head/feet
COR BONE	3.0	3.0	YC	bone	2	front/back
SAG BONE	3.0	3.0	YC	bone	2	left/right

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