CT Peds Head

Updated 04/06/25
Reviewed 05/15/25

Indications - trauma, headache, hemorrhage, altered mental status, dizziness, syncope, mass.

Do not perform a with IV only exam unless a noncontrast head has been performed within last 6 hours. Change order to CT Head w/o + w/.

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

GENERAL SCAN NOTES

Remove any metal from the imaging field of view.

For all pediatric head studies, it is very important for image quality purposes to position the patient in the center of the scan field. Use the lateral laser beam to make sure that the patient is positioned in the center.

Position patient's head so that the line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop.

Topogram - C1 vertebrae through top of head.

Craniocaudal scan coverage - C1 vertebrae through top of head. **Avoid scanning the lens of the eyes.**

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, 3 mins 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.

CT Peds Head

SIEMENS SPIRAL SCAN 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	0.55	16	1.5	1.0	9.1
Go Up 32	spiral	110	314	on	on 345	0.55	32	0.7	1.0	9.7
Sensation 64	spiral	120	190	on	NA	0.85	64	0.6	1.0	7.4
Definition 64	spiral	100	300	on	on	0.80	64	0.6	1.0	7.8
Go Top 64	spiral	100	394	on	on 345	0.55	64	0.6	1.0	5.7
Drive 128	spiral	100	255	on	on	0.80	128	0.6	1.0	3.9
Force 192	spiral	100	248	on	on	0.80	192	0.6	1.0	2.6

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX SOFT	3.0	3.0	Hr40 / C30s	cerebrum	3	feet/head
TRUE AX SOFT	3.0	3.0	Hr40 / C30s	cerebrum	3	feet/head
COR SOFT	3.0	3.0	Hr40 / C30s	cerebrum	3	front/back
AX BONE	2.0	2.0	Br59 / C60s	bone	3	feet/head

SIEMENS SEQUENTIAL SCAN PARAMETERS & RECONS

	Scan Mode	kV	Ref mAs	Care Dose	Care kV & Lvl	# Detect	Colli-mation	Feed / Scan	Scan Time	Cycle Time
Sensation 16	sequential	120	150	on	NA	12	1.5	18.0	1.0	2.0
Go Up 32										
Sensation 64	sequential	120	190	on	NA	24	1.2	28.5	1.0	2.0
Definition 64	sequential	100	300	on	on	64	0.6	17.0	1.0	2.0
Go Top 64										
Drive 128	sequential	100	210	on	on	128	0.6	34.5	1.0	4.0
Force 192	sequential	100	204	on	on	192	0.6	48.0	1.0	3.5

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX SOFT	2.4 3.0 (16 slice)	2.4 3.0 (16 slice)	Hr40 / C30s	cerebrum	3	feet/head
TRUE AX SOFT	2.4 3.0 (16 slice)	2.4 3.0 (16 slice)	Hr40 / C30s	cerebrum	3	feet/head
COR SOFT	3.0	3.0	Hr40 / C30s	cerebrum	3	front/back
AX BONE	2.4 3.0 (16 slice)	2.4 3.0 (16 slice)	Br59 / C60s	bone	3	feet/head

CT Peds Head

GE PARAMETERS & RECONS

HELICAL SCAN

For patients **0-15 years** of age:

	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	head	120	100-190	6.00	on	2.5	10	0.562	11.25	0.5	NA	NA	5.3
Opt 540	helical	head	120	100-190	6.00	on	2.5	10	0.562	11.25	0.5	NA	NA	5.3
LS VCT 64	helical	small head	120	100-200	8.49	on	2.5	20	0.531	10.62	0.5	0	0	5.6
Disc VCT 64	helical	small head	120	100-200	8.49	on	2.5	20	0.531	10.62	0.5	NA	NA	5.6

For patients **15-18 years** of age:

LS 16	helical	head	120	100-220	11.31	on	2.5	10	0.562	11.25	0.5	NA	NA	5.3
Opt 540	helical	head	120	100-220	11.31	on	2.5	10	0.562	11.25	0.5	NA	NA	5.3
LS VCT 64	helical	small head	120	100-220	11.31	on	2.5	20	0.531	10.62	0.5	0	0	5.6
Disc VCT 64	helical	small head	120	100-220	11.31	on	2.5	20	0.531	10.62	0.5	NA	NA	5.6

AXIAL SCAN

For patients **<18 mths** of age:

	Scan Type	SFOV	kV	Manual mA	Smart mA	Slice Thick	Beam Coll	Pitch / Speed	Rot Time	Dose Red	ASIR
LS 16	axial	ped	120	120	off	2.5	10	2i	1.0	NA	NA
Opt 540	axial	ped	120	120	off	2.5	10	2i	1.0	NA	NA
LS VCT 64	axial	ped head	120	170	off	2.5	20	4i	0.5	30	30
Disc VCT 64	axial	ped head	120	240	off	2.5	20	4i	0.5	NA	NA

For patients **18 mths** to **5 years** of age:

LS 16	axial	head	120	170	off	2.5	10	4i	1.0	NA	NA
Opt 540	axial	head	120	170	off	2.5	10	4i	1.0	NA	NA
LS VCT 64	axial	small head	120	235	off	2.5	20	4i	0.5	30	30
Disc VCT 64	axial	small head	120	335	off	2.5	20	4i	0.5	NA	NA

For patients **5-18 years** of age:

LS 16	axial	head	120	230	off	2.5	10	4i	1.0	NA	NA
Opt 540	axial	head	120	230	off	2.5	10	4i	1.0	NA	NA
LS VCT 64	axial	small head	120	125	off	2.5	20	4i	1.0	30	30
Disc VCT 64	axial	small head	120	180	off	2.5	20	4i	1.0	NA	NA

CT Peds Head

GE RECONS

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX SOFT	**2.5**	**2.5**	**std full**	**80/40**	**feet/head**
TRUE AX SOFT	2.5	2.5	std full	80/40	feet/head
COR SOFT	2.5	2.5	std full	80/40	front/back
AX BONE	2.5	2.5	bone full	2500/480	feet/head

Must be first recon.

PHILIPS PARAMETERS & RECONS

HELICAL SCAN

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	208	35	on	0.40	64	0.625	0.5	3.8

RECONS

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX SOFT	3.0	3.0	UB	brain	1	feet/head
TRUE AX SOFT	3.0	3.0	UB	brain	1	feet/head
COR SOFT	3.0	3.0	UB	brain	1	front/back
AX BONE	3.0	3.0	YB	bone	1	feet/head