CT Routine Head

Updated
6/15/2024

Indications - stroke, hemorrhage, altered mental status, headache, trauma, 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/.

GENERAL SCAN NOTES

Remove any metal from the imaging field of view.

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

For all adult head studies, it is 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.

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: 100 mL Omnipaque-300, inject at 1 mL/sec, 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.

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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	320	on	NA	0.55	16	1.5	1.0	9.1
Go Up 32	spiral	130	230	**off**	**off**	0.55	32	0.7	1.0	9.7
Sensation 64	spiral	120	380	on	NA	0.85	64	0.6	1.0	7.4
Definition 64	spiral	120	350	on	on	0.55	64	0.6	1.0	11.4
Go Top 64	spiral	120	265	**off**	**off**	0.55	64	0.5	1.0	6.8
Drive 128	spiral	120	332	on	on	0.55	128	0.6	1.0	5.7
Force 192	spiral	120	332	on	on	0.55	192	0.6	1.0	3.8

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX SOFT	4.0	4.0	Hr40 / H31s	cerebrum	3	feet/head
TRUE AX SOFT	4.0	4.0	Hr40 / H31s	cerebrum	3	feet/head
COR SOFT	3.0	3.0	Hr40 / H31s	cerebrum	3	front/back
SAG SOFT	3.0	3.0	Hr40 / H31s	cerebrum	3	left/right
AX BONE	4.0	4.0	Hr64 / H70s	bone	3	feet/head

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	4.0	4.0	Hr40 / H31s	cerebrum	3	feet/head

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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	310	on	NA	12	1.5	18.0	1.0	2.0
Go Up 32	sequential	130	191	on	on	32	0.70	20.0	1.0	2.0
Sensation 64	sequential	120	430	on	NA	24	1.2	28.5	1.0	2.0
Definition 64	sequential	120	390	on	on	64	0.6	17.0	1.0	2.0
Go Top 64	sequential	120	265	**off**	**off**	64	0.6	34.5	1.0	2.0
Drive 128	sequential	120	273	on	on	32	1.2	34.5	2.0	4.0
Force 192	sequential	120	273	on	on	192	0.6	48.0	1.0	3.5

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX SOFT	4.8 4.5 (16 slice)	4.8 4.5 (16 slice)	Hr40 / H31s	cerebrum	3	feet/head
TRUE AX SOFT	4.8 4.5 (16 slice)	4.8 4.5 (16 slice)	Hr40 / H31s	cerebrum	3	feet/head
COR SOFT	3.0	3.0	Hr40 / H31s	cerebrum	3	front/back
SAG SOFT	3.0	3.0	Hr40 / H31s	cerebrum	3	left/right
AX BONE	4.8 4.5 (16 slice)	4.8 4.5 (16 slice)	Hr64 / H70s	bone	3	feet/head

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	4.8 4.5 (16 slice)	4.8 4.5 (16 slice)	Hr40 / H31s	cerebrum	3	feet/head

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GE PARAMETERS & RECONS

HELICAL SCAN

	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	50-250	3.54	on	5.0	10	0.562	5.62	0.8	NA	NA	17.1
Opt 540	helical	head	120	50-250	3.54	on	5.0	10	0.562	5.62	0.8	NA	NA	17.1
LS VCT 64	helical	head	120	50-210	2.47	on	5.0	20	0.531	10.62	0.7	30	30	7.9
Disc VCT 64	helical	head	120	50-210	2.47	on	5.0	20	0.531	10.62	0.7	NA	NA	7.9

AXIAL SCAN

	Scan Type	SFOV	kV	Manual mA	Smart mA	Slice Thick	Beam Coll	Pitch / Speed	Rot Time	Dose Red	ASIR
LS 16	axial	head	120	480	off	5	10	2i	0.5	NA	NA
Opt 540	axial	head	120	480	off	5	10	2i	0.5	NA	NA
LS VCT 64	axial	head	120	480	off	5	10	2i	0.5	20	20
Disc VCT 64	axial	head	120	600	off	5	10	2i	0.5	NA	NA

RECONS

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX SOFT	**5.0**	**5.0**	**std full**	**80/40**	**feet/head**
TRUE AX SOFT	5.0	5.0	std full	80/40	feet/head
COR SOFT	2.5	2.5	std full	80/40	front/back
SAG SOFT	2.5	2.5	std full	80/40	left/right
AX BONE	5.0	5.0	bone full	2500/480	feet/head

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	5.0	5.0	std full	80/40	feet/head

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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	310	37	on	0.70	64	0.625	1.0	4.3

AXIAL SCAN

	Scan Mode	kV	mAs	Dose Index	3D Dose	# Detect	Colli-mation	Feed / Scan	Scan Time	Cycle Time
Incisive 128	axial	120	280	NA	NA	16	0.625	10.0	1.0	1.7

RECONS

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX SOFT	4.0	4.0	UB	brain	1	feet/head
TRUE AX SOFT	4.0	4.0	UB	brain	1	feet/head
COR SOFT	3.0	3.0	UB	brain	1	front/back
SAG SOFT	3.0	3.0	UB	brain	1	left/right
AX BONE	4.0	4.0	YB	bone	1	feet/head

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	4.0	4.0	UB	brain	1	feet/head