

# CT Head Surgical

Updated  
3/22/2025

Also known as - stealth protocol, brain lab protocol.

Indications - pre surgical imaging.

## 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 (usually 28 to 32 cm).

Include from **anterior nose tip** through **posterior skin** (anterior to posterior coverage).

Use a **square matrix** (either 256 x 256 or 512 x 512).

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.

# CT Head Surgical

## 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	<b>off</b>	<b>off</b>	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	<b>off</b>	<b>off</b>	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
<b>TRUE AX THINS</b>	<b>*1.0</b>	<b>*1.0</b>	<b>Hr40 / H31s</b>	<b>cerebrum</b>	<b>3</b>	<b>feet/head</b>
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

**Protocol specific recon.**

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

**\*Send as close to 1.0 mm thick 1.0 mm spacing recons if your scanner cannot do exactly 1.0 x 1.0 mm.**

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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## GE HELICAL SCAN 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	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

## 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
<b>TRUE AX THINS</b>	<b>*1.0</b>	<b>*1.0</b>	<b>std full</b>	<b>80/40</b>	<b>feet/head</b>
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.**

**Protocol specific recon.**

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

**\*Send as close to 1.0 mm thick 1.0 mm spacing recons if your scanner cannot do exactly 1.0 x 1.0 mm.**

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 HELICAL SCAN PARAMETERS & RECONS

	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

## 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
<b>TRUE AX THINS</b>	<b>*1.0</b>	<b>*1.0</b>	<b>UB</b>	<b>brain</b>	<b>1</b>	<b>feet/head</b>
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

**Protocol specific recon.**

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

**\*Send as close to 1.0 mm thick 1.0 mm spacing recons if your scanner cannot do exactly 1.0 x 1.0 mm.**

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
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