

CT Venogram Head

Updated 03/03/25

Reviewed 05/14/25

Indications - venous sinus thrombosis, headache, nausea, vomiting, vision changes, focal neurologic deficits and seizures.

Use CT Angiography Head w/ + w/o Contrast charge.

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.

Topogram - C2 vertebrae through top of head.

Craniocaudal overage - C2 vertebrae through top of head.

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

IV Contrast:

Administer weight-based **Omnipaque-350** - **1 mL/kg** up to **100 mL**.

Inject at **4 mL/sec** followed by 40 mL saline flush, 20-gauge or larger in forearm or more proximal.

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.

Non contrast technical parameters and reconstructions are the same as routine head.

Venogram technical parameters and reconstructions are the same as CTA head.

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SIEMENS PARAMETERS & RECONS

For the Non Contrast phase:

	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

For the Venogram phase:

	Scan Mode	kV	mAs	Care Dose	Care kV & Lvl	Pitch	Acq	Coll	Rot Time	Scan Time
Sensation 16	spiral	120	140	on	NA	1.15	16	0.75	0.5	4.3
Go Up 32	spiral	80	84	on	on 105	1.50	32	0.7	0.8	2.9
Sensation 64	spiral	120	160	on	NA	1.20	64	0.6	0.5	2.6
Definition 64	spiral	100	175	on	on	1.40	64	0.6	0.5	2.2
Go Top 64	spiral	90	83	on	on 105	1.50	64	0.6	0.33	0.7
Drive 128	spiral	80 Sn140	178 89	on	on	0.70	64	0.6	0.33	2.9
Force 192	spiral	80 140	345 69	on	on	0.90	64	0.6	0.25	1.7

NON CONTRAST PHASE

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

VENOGRAM PHASE (30 secs)

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX VEIN	2.0	2.0	Bv36 / H20f	CT angio	3	feet/head
AX VEIN THINS	1.0	1.0	Bv36 / H20f	CT angio	3	feet/head
COR VEIN MIPS	2.0	2.0	Bv36 / H20f	CT angio	3	front/back
SAG VEIN MIPS	2.0	2.0	Bv36 / H20f	CT angio	3	left/right
3D VRT (spin)	0.75	0.5	Bv36 / B31f	CT angio		
3D VRT (tumble)	0.75	0.5	Bv36 / B31f	CT angio		

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GE PARAMETERS & RECONS

For the Non Contrast phase:

	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

For the Venogram phase:

	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	100-400	3.50	on	2.5	10	0.938	9.37	0.5	NA	NA	6.4
Opt 540	helical	head	120	100-400	3.50	on	2.5	10	0.938	9.37	0.5	NA	NA	6.4
LS VCT 64	helical	head	120	100-450	5.00	on	2.5	20	0.969	19.37	0.5	20	20	3.1
Disc VCT 64	helical	head	120	100-450	5.00	on	2.5	20	0.969	19.37	0.5	NA	NA	3.1

NON CONTRAST PHASE

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.

VENOGRAM PHASE (30 secs)

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX VEIN	2.5	2.5	std full	400/40	feet/head
AX VEIN THINS	1.25	1.25	std full	400/40	feet/head
COR VEIN MIPS	2.5	2.5	std full	400/40	front/back
SAG VEIN MIPS	2.5	2.5	std full	400/40	left/right
3D VRT (spin)	0.625	0.625	std full	400/40	
3D VRT (tumble)	0.625	0.625	std full	400/40	

Must be first recon.

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PHILIPS PARAMETERS & RECONS

For the **Non Contrast** phase:

	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

For the **Venogram** phase:

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	203	22	on	1.00	64	0.625	1.00	3.0

NON CONTRAST PHASE

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

VENOGRAM PHASE (30 secs)

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX VEIN	2.0	2.0	B	CTA	2	feet/head
AX VEIN THINS	1.0	1.0	B	CTA	2	feet/head
COR VEIN MIPS	2.0	2.0	B	CTA	2	front/back
SAG VEIN MIPS	2.0	2.0	B	CTA	2	left/right
3D VRT (spin)	0.75	0.5	B			
3D VRT (tumble)	0.75	0.5	B			