

CTA Thoracic Aorta (Chest Only)

Updated 05/02/24

Reviewed 05/14/25

Indications - chest pain, aneurysm, dissection, hemoptysis, aneurysm repair including open repair and endograft.

If indication is PE and hemoptysis, tech should contact ordering clinician to pick either PE or hemoptysis which will determine which protocol to use.

Bill under CT Angiography Chest w/ and w/o Contrast charge.

GENERAL SCAN NOTES

Move the patient's arms over his/her head if possible. Remove any metal from the imaging field of view.

Topogram - lung apices through adrenal glands (obtained during end inspiration).

Craniocaudal scan coverage - lung apices through adrenal glands on all phases (obtained during end inspiration).

Only do a delayed phase if there is a stent/endograft in the aorta.

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

Scan parameters are the same as PE protocol.

IV Contrast:

Administer weight-based **Omnipaque-350** - **1 mL/kg** up to **150 mL** (100 mL minimum).

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

Bolus track off **ascending aorta** triggered at **100 HU**.

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 PARAMETERS & RECONS

For the **Pre Contrast**, **Angio** and **Delay (5 mins)** phases:

	Scan Mode	kV	mAs	Care Dose	Care kV & Lvl	Pitch	Acq	Coll	Rot Time	Scan Time
Sensation 16	spiral	120	150	on	NA	1.15	16	0.75	0.5	10.9
Go Up 32	spiral	110	56	on	on 70	1.50	32	0.7	0.8	7.1
Sensation 64	spiral	120	150	on	NA	1.20	64	0.6	0.5	6.5
Definition 64	spiral	120	127	on	on	1.40	64	0.6	0.3	3.3
Go Top 64	spiral	100	62	on	on 70	1.50	64	0.6	0.33	1.7
Drive 128	spiral	100	105	on	on	1.20	128	0.6	0.28	1.8
Force 192	spiral	100	105	on	on	1.20	192	0.5	0.25	1.3

PRE CONTRAST

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Anatomy
AX PRE	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet

ANGIO PHASE

AX ANGIO	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet
AX ANGIO THINS	1.0	1.0	Br40 / B41f	mediastinum	3	head/feet
COR ANGIO	3.0	3.0	Br40 / B41f	mediastinum	3	front/back
CANDY CANE ANGIO	3.0	3.0	Br40 / B41f	mediastinum	3	left/right
AX LUNG	3.0	3.0	Br57 / B70f	lung	3	head/feet
AX MIPS	8.0	3.0	Br40 / B41f	lung	3	head/feet
3D VRT (spin)	0.75	0.5	Bv36 / B31f	CT angio		

DELAY PHASE (5 mins)

AX DELAY	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet
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GE PARAMETERS & RECONS

For the Pre Contrast, Angio and Delay (5 mins) phases:

	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	large	120	100-440	16.36	on	2.5	20	1.375	27.50	0.5	NA	NA	5.5
Opt 540	helical	large	120	100-440	16.36	on	2.5	20	1.375	27.50	0.5	NA	NA	5.5
LS VCT 64	helical	large body	120	100-600	14.14	on	2.5	40	0.984	39.375	0.5	40	40	3.8
Disc VCT 64	helical	large body	120	100-600	14.14	on	2.5	40	0.984	39.375	0.5	40	40	3.8

PRE CONTRAST

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX PRE	2.5	2.5	std full	400/40	head/feet

Must be first recon.

ANGIO PHASE

AX ANGIO	2.5	2.5	std full	400/40	head/feet
AX ANGIO THINS	1.25	1.25	std full	400/40	head/feet
COR ANGIO	2.5	2.5	std full	400/40	front/back
CANDY CANE ANGIO	2.5	2.5	std full	400/40	left/right
AX LUNG	2.5	2.5	lung	1600/-600	head/feet
AX MIPS	8.0	3.0	std full	1600/-600	head/feet
3D VRT (spin)	0.625	0.625	std full	400/40	

Must be first recon.

DELAY PHASE (5 mins)

AX DELAY	2.5	2.5	std full	400/40	head/feet
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Must be first recon.

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PHILIPS PARAMETERS & RECONS

For the **Pre Contrast**, **Angio** and **Delay (5 mins)** phases:

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	103	20	on	1.00	64	0.625	0.75	5.6

PRE CONTRAST

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX PRE	3.0	3.0	B	mediastinum	3	head/feet

ANGIO PHASE

AX ANGIO	3.0	3.0	B	mediastinum	3	head/feet
AX ANGIO THINS	1.0	1.0	B	mediastinum	3	head/feet
COR ANGIO	3.0	3.0	B	mediastinum	3	front/back
CANDY CANE ANGIO	3.0	3.0	B	mediastinum	3	left/right
AX LUNG	3.0	3.0	YA	lung	3	head/feet
AX MIPS	8.0	3.0	B	lung	3	head/feet
3D VRT (spin)	0.75	0.5				

DELAY PHASE (5 mins)

AX DELAY	3.0	3.0	B	mediastinum	3	head/feet
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