

CTA Full Aorta (CAP)

Updated 05/02/24

Reviewed 05/14/25

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

Bill under CT Angio CAP 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 pubic symphysis (obtained during end inspiration).

Craniocaudal scan coverage:

Pre contrast phase - CAP (obtained during end inspiration).

Angio phase - CAP (obtained during end inspiration).

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

Delay phase

Chest only if the stent is in the chest (obtained during end inspiration).

Abdomen/pelvis only if the stent is in the abdomen (obtained during end inspiration).

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

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**.

Oral Contrast: generally not given for this protocol.

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	1.5	0.5	14.5
Go Up 32	spiral	110	92	on	on 115	1.50	32	0.7	0.8	19.0
Sensation 64	spiral	120	150	on	NA	1.20	64	0.6	0.5	17.4
Definition 64	spiral	120	120	on	on	1.40	64	0.6	0.5	14.9
Go Top 64	spiral	100	101	on	on 115	1.50	64	0.6	0.33	4.6
Drive 128	spiral	120	84	on	on	1.20	128	0.6	0.5	8.7
Force 192	spiral	110	90	on	on	1.20	192	0.6	0.5	5.8

PRE CONTRAST

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

ANGIO PHASE

AX ANGIO	3.0	3.0	Br40 / B41f	mediastinum	3	CAP	head/feet
AX ANGIO THINS	1.0 2.0 (16 slice)	1.0 2.0 (16 slice)	Br40 / B41f	mediastinum	3	CAP	head/feet
COR ANGIO	3.0	3.0	Br40 / B41f	mediastinum	3	CAP	front/back
CANDY CANE ANGIO	3.0	3.0	Br40 / B41f	mediastinum	3	CAP	left/right
AX LUNG	3.0	3.0	Br57 / B70f	lung	3	chest	head/feet
AX MIPS	8.0	3.0	Br40 / B41f	lung	3	chest	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	stent area	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	14.5
Opt 540	helical	large	120	100-440	16.36	on	2.5	20	1.375	27.50	0.5	NA	NA	14.5
LS VCT 64	helical	large body	120	100-700	14.14	on	2.5	40	1.375	55.00	0.5	50	50	7.3
Disc VCT 64	helical	large body	120	100-700	14.14	on	2.5	40	1.375	55.00	0.5	NA	NA	7.3

PRE CONTRAST

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

This must be the first recon for the prescribed Noise Index to be valid.

ANGIO PHASE

AX ANGIO	2.5	2.5	std full	400/40	CAP	head/feet
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This must be the first recon for the prescribed Noise Index to be valid.

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

DELAY PHASE (5 mins)

AX DELAY	2.5	2.5	std full	400/40	stent area	head/feet
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This must be the first recon for the prescribed Noise Index to be valid.

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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	15.0

PRE CONTRAST

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

ANGIO PHASE

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

DELAY PHASE (5 mins)

AX DELAY	3.0	3.0	B	mediastinum	3	CAP	head/feet
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