CTA Renal Artery

Updated 04/27/24
Reviewed 05/14/25

Indications - renal artery stenosis or aneurysm, hypertension, fibromuscular dysplasia.
Bill under CT Angio Combo AP 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 bases through pubic symphysis (obtained during end inspiration).
Craniocaudal scan coverage - lung bases through pubic symphysis on both phases (obtained during end inspiration).
If only abdomen ordered, only image the abdomen regardless of what coverage areas below indicate.
Adjust FOV (field of view) on topogram to smallest without cropping anatomy.
Scan parameters are the same as CTA abdominal aorta.
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 **proximal abdominal 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** and **Angio** 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	18.1
Go Up 32	spiral	110	92	on	on 115	1.50	32	0.7	0.8	11.9
Sensation 64	spiral	120	150	on	NA	1.20	64	0.6	0.5	10.9
Definition 64	spiral	120	120	on	on	1.40	64	0.6	0.5	9.3
Go Top 64	spiral	100	101	on	on 115	1.50	64	0.6	0.33	2.9
Drive 128	spiral	120	84	on	on	1.20	128	0.6	0.5	5.4
Force 192	spiral	110	90	on	on	1.20	192	0.6	0.5	3.6

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	2.0	2.0	Br40 / B41f	mediastinum	3	head/feet
AX ANGIO THINS	1.0	1.0	Br40 / B41f	mediastinum	3	head/feet
COR ANGIO	2.0	2.0	Br40 / B41f	mediastinum	3	front/back
SAG ANGIO	2.0	2.0	Br40 / B41f	mediastinum	3	left/right
CURVED RIGHT ANGIO MIPS	2.0	2.0	Br40 / B41f	mediastinum	3	front/back
CURVED LEFT ANGIO MIPS	2.0	2.0	Br40 / B41f	mediastinum	3	front/back
3D VRT (spin)	0.75	0.5	Bv36 / B31f	CT angio		

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GE PARAMETERS & RECONS

For the **Pre Contrast** and **Angio** 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	9.1
Opt 540	helical	large	120	100-440	16.36	on	2.5	20	1.375	27.50	0.5	NA	NA	9.1
LS VCT 64	helical	large body	120	100-700	14.14	on	2.5	40	1.375	55.00	0.5	50	50	4.5
Disc VCT 64	helical	large body	120	100-700	14.14	on	2.5	40	1.375	55.00	0.5	50	50	4.5

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**

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**	**head/feet**

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

COR ANGIO	2.5	2.5	std full	400/40	front/back
SAG ANGIO	2.5	2.5	std full	400/40	left/right
AX ANGIO THINS	1.25	1.25	std full	400/40	head/feet
CURVED RIGHT ANGIO MIPS	2.5	2.5	std full	400/40	front/back
CURVED LEFT ANGIO MIPS	2.5	2.5	std full	400/40	front/back
3D VRT (spin)	0.625	0.625	std full	400/40	

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PHILIPS PARAMETERS & RECONS

For the **Pre Contrast** and **Angio** 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	9.4

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	2.0	2.0	B	mediastinum	3	head/feet
AX ANGIO THINS	1.0	1.0	B	mediastinum	3	head/feet
COR ANGIO	2.0	2.0	B	mediastinum	3	front/back
SAG ANGIO	2.0	2.0	B	mediastinum	3	left/right
CURVED RIGHT ANGIO MIPS	2.0	2.0	B	mediastinum	3	front/back
CURVED LEFT ANGIO MIPS	2.0	2.0	B	mediastinum	3	front/back
3D VRT (spin)	0.75	0.5				