

CT Adrenal

Updated
5/2/2024

Indications - adrenal mass/adenoma/pheochromocytoma/hemorrhage, abnormal endocrine function, hyperaldosteronism, hypercortisolism, Cushing's disease.

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:

Pre contrast - **abdomen only** (lung bases to iliac crests) (obtained during end inspiration).

Venous phase - **abdomen/pelvis** (lung bases through pubic symphysis) (obtained during end inspiration).

Delay phase - **abdomen only** (lung bases to iliac crests) (obtained during end inspiration).

If only the abdomen is ordered, only image the abdomen regardless of what coverage areas below indicate.

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

IV Contrast:

Administer weight-based **Omnipaque-300 - 1 mL/kg** up to **150 mL** (100 mL minimum).

Inject at **3 mL/sec** followed by 40 mL saline flush, 20-gauge or larger in forearm or more proximal.

Oral Contrast: generally not given for this protocol.

After the pre contrast scan:

Send the pre contrast recons to PACS then have an Rad check the images. If there is no mass or the mass has a HU <10, then it is very likely a benign adenoma and the SCAN CAN BE STOPPED HERE.

Also if mass has been evaluated with CT or MRI before, check with a Rad to see if a full protocol needs to be performed. Usually don't need repeated full protocols on adrenal masses.

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** phase:

	Scan Mode	kV	mAs	Care Dose	Care kV & Lvl	Pitch	Acq	Coll	Rot Time	Scan Time
Sensation 16	spiral	120	200	on	NA	0.80	16	0.75	0.5	15.6
Go Up 32	spiral	130	92	on	on 145	0.80	32	0.7	0.8	13.4
Sensation 64	spiral	120	200	on	NA	1.20	64	0.6	0.5	3.3
Definition 64	spiral	120	180	on	on	0.60	64	0.6	0.5	13.0
Go Top 64	spiral	120	112	on	on 145	0.80	64	0.6	0.5	4.9
Drive 128	spiral	120	147	on	on	0.60	128	0.6	0.5	6.5
Force 192	spiral	120	147	on	on	0.60	192	0.6	0.5	4.3

For the **Venous (60 secs) & Delay (15 mins)** phase:

	Scan Mode	kV	mAs	Care Dose	Care kV & Lvl	Pitch	Acq	Coll	Rot Time	Scan Time
Sensation 16	spiral	120	200	on	NA	0.80	16	1.5	0.5	13.0
Go Up 32	spiral	130	92	on	on 145	0.80	32	0.7	0.8	22.3
Sensation 64	spiral	120	200	on	NA	1.20	24	1.2	0.5	7.2
Definition 64	spiral	120	180	on	on	0.60	64	0.6	0.5	21.7
Go Top 64	spiral	120	112	on	on 145	0.80	64	0.6	0.5	8.1
Drive 128	spiral	120	147	on	on	0.60	128	0.6	0.5	10.9
Force 192	spiral	120	147	on	on	0.60	192	0.6	0.5	7.2

PRE CONTRAST PHASE

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX PRE	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet
COR PRE	3.0	3.0	Br40 / B41f	mediastinum	3	front/back
AX PRE THINS	1.0	1.0	Br40 / B41f	mediastinum	3	head/feet

VENOUS PHASE (60 secs)

AX 60 SECS	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet
COR 60 SECS	3.0	3.0	Br40 / B41f	mediastinum	3	front/back
SAG 60 SECS	3.0	3.0	Br40 / B41f	mediastinum	3	left/right

DELAY PHASE (15 mins)

AX 15 MINS	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet
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GE PARAMETERS & RECONS

For the Pre Contrast, Venous (60 secs) & Delay (15 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	50-440	16.36	on	2.5	20	1.375	27.50	0.6	NA	NA	10.9
Opt 540	helical	large	120	50-440	16.36	on	2.5	20	1.375	27.50	0.6	NA	NA	10.9
LS VCT 64	helical	large body	120	50-650	16.36	on	2.5	40	1.375	55.00	0.5	50	50	4.5
Disc VCT 64	helical	large body	120	50-650	16.36	on	2.5	40	1.375	55.00	0.5	NA	NA	4.5

PRE CONTRAST PHASE

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX PRE	2.5	2.5	std full	400/40	head/feet
COR PRE	2.5	2.5	std full	400/40	front/back
AX THINS	1.25	1.25	std full	400/40	head/feet

Must be first recon.

VENOUS PHASE (60 secs)

AX 60 SECS	2.5	2.5	std full	400/40	head/feet
COR 60 SECS	2.5	2.5	std full	400/40	front/back
SAG 60 SECS	2.5	2.5	std full	400/40	left/right

Must be first recon.

DELAY PHASE (15 mins)

AX 15 MINS	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, Venous (60 secs) & Delay (15 mins) phases:

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	115	20	on	1.00	64	0.625	0.75	9.4

PRE CONTRAST PHASE

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX PRE	3.0	3.0	B	mediastinum	3	head/feet
COR PRE	3.0	3.0	B	mediastinum	3	front/back
AX PRE THINS	1.0	1.0	B	mediastinum	3	head/feet

VENOUS PHASE (70 secs)

AX 60 SECS	3.0	3.0	B	mediastinum	3	head/feet
COR 60 SECS	3.0	3.0	B	mediastinum	3	front/back
SAG 60 SECS	3.0	3.0	B	mediastinum	3	left/right

DELAY PHASE (15 mins)

AX 15 MINS	3.0	3.0	B	mediastinum	3	head/feet
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