CT Lung Cancer Screening

Updated 04/28/25
Reviewed 05/14/25

Indications - lung cancer screening **only** in patients who meet criteria (see patient questionnaire) and follow-up of prior screening CT (unless prior report indications a routine or low-dose protocol).
If patient doesn't meet screening criteria, use the low-dose protocol and use CT Chest w/o Contrast charge.
Per ACR guidelines, this exam should have a CTDI of less than 3.00 mGy for a normal size patient.
Use CT Lung RADS for Screening Follow-up charge.

GENERAL SCAN NOTES

Move the patient's arms over his/her head if possible. Remove any metal from the imaging field of view.
Have the patient cough a few times to clear secretions. This reduces incidence of small lung nodules.
Topogram - lung apices through diaphragm (obtained during end inspiration).
Craniocaudal scan coverage - **Lung apices** through **lung bases** (obtained during end inspiration).
Do not image through adrenal glands as is done with routine chest CT.
Adjust FOV (field of view) on topogram to smallest without cropping anatomy.
Recons are the same as routine chest protocol.
IV Contrast: 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.

SIEMENS PARAMETERS & RECONS

	Scan Mode	kV	mAs	Care Dose	Care kV & Lvl	Pitch	Acq	Coll	Rot Time	Scan Time
Sensation 16	spiral	120	**25**	on	NA	1.15	16	0.75	0.5	10.9
Go Up 32	spiral	Sn110	**62**	on	on 15	0.80	32	0.7	0.8	13.4
Sensation 64	spiral	120	**25**	on	NA	1.40	64	0.6	0.5	5.6
Definition 64	spiral	120	**28**	on	on	1.20	64	0.6	0.5	6.5
Go Top 64	spiral	Sn100	**179**	on	on 15	0.80	64	0.6	0.33	3.2
Drive 128	spiral	120	**20**	on	on	1.20	128	0.6	0.5	3.3
Force 192	spiral	Sn100	**101**	on	on	1.20	192	0.6	0.5	2.2

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX LUNG	3.0	3.0	Bl57 / B70f	lung	3	head/feet
AX SOFT	3.0	3.0	Br40 / B41f	mediastinum	3	head/feet
COR SOFT	3.0	3.0	Br40 / B41f	mediastinum	3	front/back
SAG SOFT	3.0	3.0	Br40 / B41f	mediastinum	3	left/right
AX THINS	1.0	0.8	Br40 / B41f	mediastinum	3	head/feet
AX MIPS	8.0	3.0	Br40 / B41f	lung	3	head/feet

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GE PARAMETERS & RECONS

	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	40-130	**29.50**	on	2.5	20	1.375	27.50	0.5	NA	NA	5.5
Opt 540	helical	large	120	40-130	**29.50**	on	2.5	20	1.375	27.50	0.5	NA	NA	5.5
LS VCT 64	helical	large body	120	30-110	**34.00**	on	2.5	40	0.984	39.375	0.5	0	70	3.8
Disc VCT 64	helical	large body	120	30-110	**34.00**	on	2.5	40	1.375	55.00	0.5	0	70	2.7

Name of Series	Thickness	Interval	Recon Algorithm	Window Width/Level	Recon Direction
AX LUNG	**2.5**	**2.5**	**lung**	**1600/-600**	**head/feet**
AX SOFT	2.5	2.5	std full	400/40	head/feet
COR SOFT	2.5	2.5	std full	400/40	front/back
SAG SOFT	2.5	2.5	std full	400/40	left/right
AX THINS	1.25	1.0	std full	400/40	head/feet
AX MIPS	8.0	3.0	std full	1600/-600	head/feet

Must be first recon.

PHILIPS PARAMETERS & RECONS

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	**23**	19	on	1.00	64	0.625	0.75	5.6

Name of Series	Thick	Interval	Filter	Window	iDose	Recon Direction
AX LUNG	3.0	3.0	YA	lung	3	head/feet
AX SOFT	3.0	3.0	B	mediastinum	3	head/feet
COR SOFT	3.0	3.0	B	mediastinum	3	front/back
SAG SOFT	3.0	3.0	B	mediastinum	3	left/right
AX THINS	1.0	0.75	B	mediastinum	3	head/feet
AX MIPS	8.0	2.0	B	lung	3	head/feet