

# CT Chest Olympus Volume Reduction

Updated  
5/1/2024

Indications - pre procedural imaging prior to endoscopic lung volume reduction and will be ordered specifically as

Olympus Lung Reduction protocol by Pulmonology.

Use CT Chest without Contrast charge.

## GENERAL SCAN NOTES

### The patient's arms must be over his/her head.

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 adrenal glands (obtained during **maximum** end inspiration).

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

Scan parameters are the same as routine chest protocol.

See end of protocol for requirements for the **axial TLC thins** recons.

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	100	on	NA	1.15	16	0.75	0.5	10.9
Go Up 32	spiral	130	51	on	on 80	1.50	32	0.7	0.8	7.1
Sensation 64	spiral	120	100	on	NA	1.40	64	0.6	0.5	5.6
Definition 64	spiral	120	110	on	on	1.20	64	0.6	0.5	6.5
Go Top 64	spiral	120	62	on	on 80	1.20	64	0.6	0.33	2.1
Drive 128	spiral	120	66	on	on	1.20	128	0.6	0.5	3.3
Force 192	spiral	110	51	on	on	1.20	192	0.5	0.5	2.6

Name of Series	Thick	Interval	Kernel	Window	IR Lvl	Recon Direction
AX LUNG	3.0	3.0	Br57 / 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
<b>TLC INSP</b>	<b>1.0</b>	<b>1.0</b>	<b>Br44 / B41f</b>	<b>mediastinum</b>	<b>3</b>	<b>head/feet</b>
AX MIPS	8.0	3.0	Br40 / B41f	lung	3	head/feet

**Olympus specific recon.**

# CT Chest Olympus Volume Reduction

## 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	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	100-650	18.38	on	2.5	40	1.375	55.00	0.4	50	50	2.2
Disc VCT 64	helical	large body	120	100-650	18.38	on	2.5	40	1.375	55.00	0.4	NA	NA	2.2

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
<b>TLC INSP</b>	<b>1.25</b>	<b>1.25</b>	<b>std full</b>	<b>400/40</b>	<b>head/feet</b>
AX MIPS	8.0	3.0	std full	1600/-600	head/feet

**Must be first recon.**

**Olympus specific recon.**

## PHILIPS PARAMETERS & RECONS

	Scan Mode	kV	Avg mAs	Dose Index	3D Dose	Pitch	Detect	Colli	Rot Time	Scan Time
Incisive 128	helical	120	92	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
<b>TLC INSP</b>	<b>1.0</b>	<b>1.0</b>	<b>B</b>	<b>mediastinum</b>	<b>3</b>	<b>head/feet</b>
AX MIPS	8.0	2.0	B	lung	3	head/feet

**Olympus specific recon.**

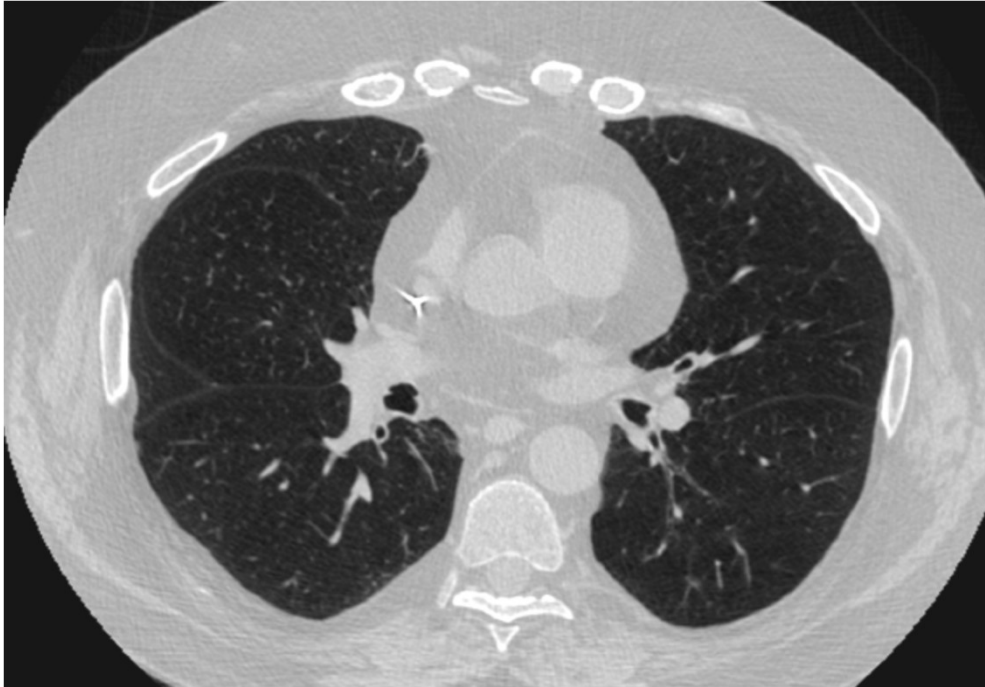
## **CT Chest Olympus Volume Reduction**

For the **Axial TLC Thins** recons:

The cranial/top image should begin 1-2 slices above the top of both lungs.

The caudal/bottom image should stop 1-2 slices below the bottom of both lungs.

The FOV of the transverse/axial plane should tightly fit the lungs (outer rib to outer rib at widest part of the chest).



**Transverse/Axial FOV**