



What is that opacity?

A pulmonologist's approach...

DATE: SEPTEMBER 20th, 2024 PRESENTED BY: JEFF ROBINSON, MD

Disclosures

- United Therapeutics - Research grant, Site-PI for clinical trial
- Gossamer Bio - Research grant, Site-PI for clinical trial
- Janssen - Site-PI for clinical trial, Scientific consulting fees
- Merck/Acceleron, Site-PI for clinical trial

Outline

- 3 cases to demonstrate an approach to the patient with ground glass opacities / infiltrates

Caveats

- This will in no way be comprehensive
- Focus is on the immunocompetent patient
- We need volunteers
- Prizes for participation will be given
- I am not a radiologist...

Case 1: Chief Complaint

49-year-old woman with
dyspnea and chest
pressure

History of Present Illness

- 5 days of progressive dyspnea, now getting winded after only a few steps.
- Dry cough, new for her, over same period. Exacerbated by deep breaths.
- Nearly constant chest pressure, also worse with deep breaths.

Past Medical History

PMH

- Type 2 Diabetes
- Dyslipidemia

PSH

- None

Medications

- Metformin 500 mg PO BID
- Simvastatin 20mg PO Qdaily

Family and Social History

SH:

- 13 pack-year tobacco history. No EtOH or other drugs.
- No pets, swamp coolers, hot tubs.
- Recently returned to work, cleaning homes that had smoke damage in Colorado Springs.

FH: Non-contributory



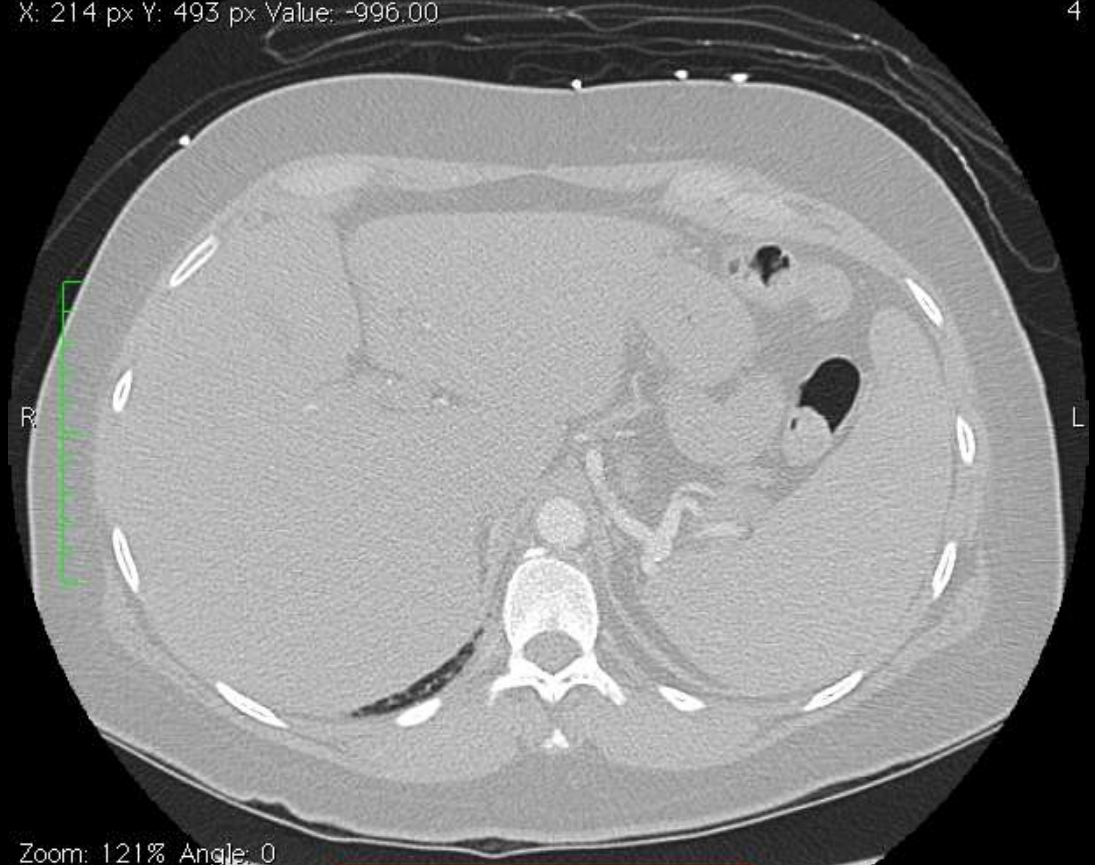
Physical Exam

- VS: T 38.2° BP 94/58, P 85, R 18, SpO2 78% on RA, 91% on 4L NC
- Gen: Speaking 5-word sentences, NAD.
- HEENT: No elevated JVP.
- CVS: RRR with no M/R/G. PMI not displaced.
- Lungs: No accessory muscle use. **Crackles halfway up lung fields, L>R.**
- Abd: BS+, non-tender, no masses.
- Ext: No edema, normal distal pulses.



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 214 px Y: 493 px Value: -996.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 1/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -155.00 mm P

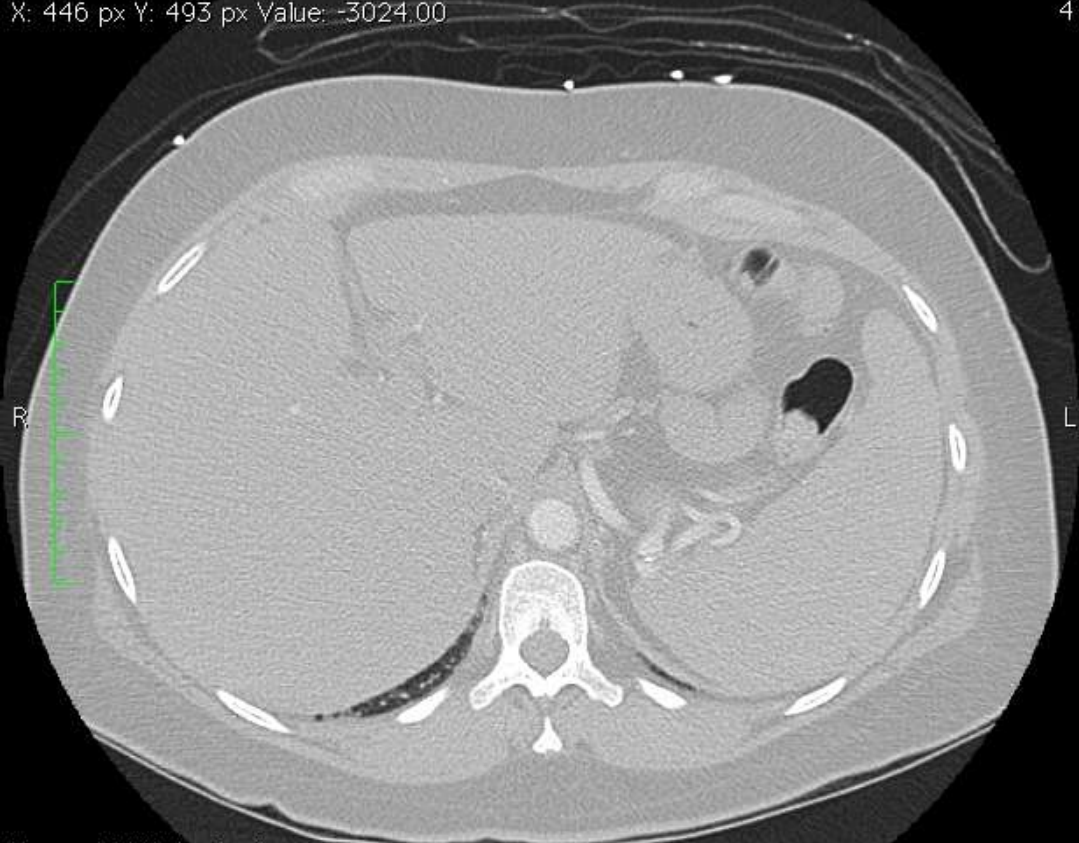
NOT FOR MEDICAL USAGE

7/6/12 5:40:47 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A
1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 2/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -152.50 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:47 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A
1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 3/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -150.00 mm P

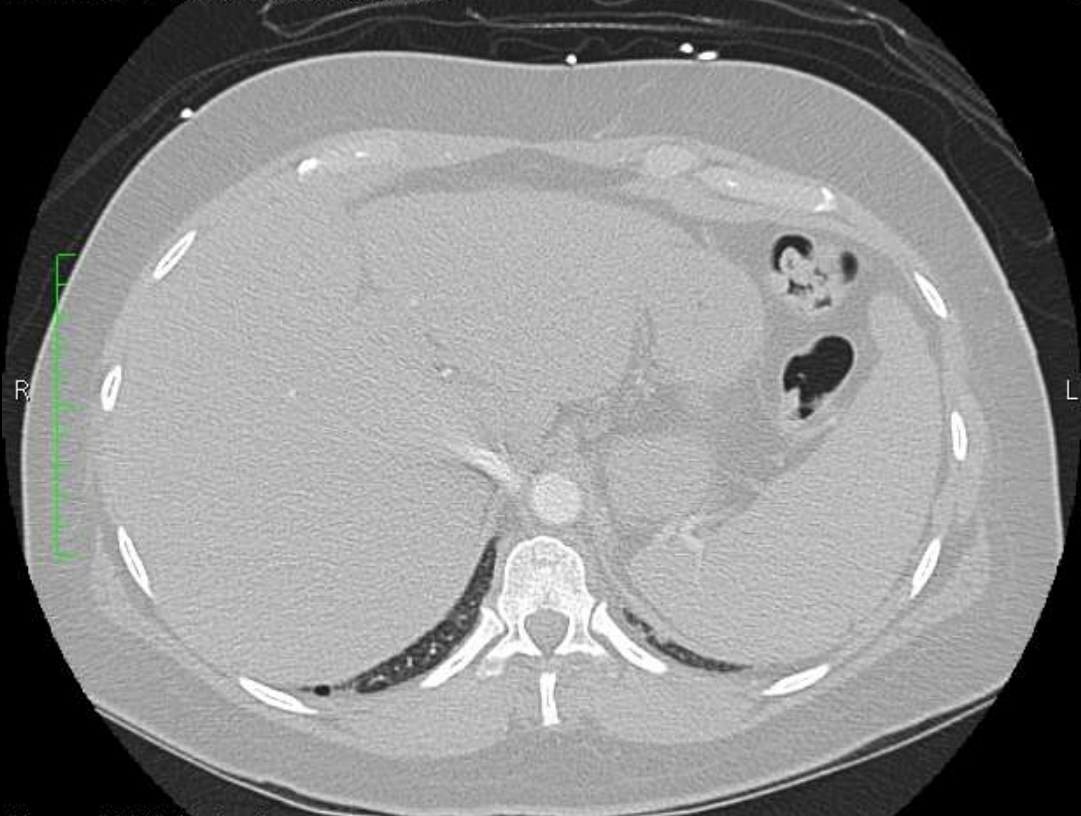
NOT FOR MEDICAL USAGE

7/6/12 5:40:47 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 4/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -147.50 mm P

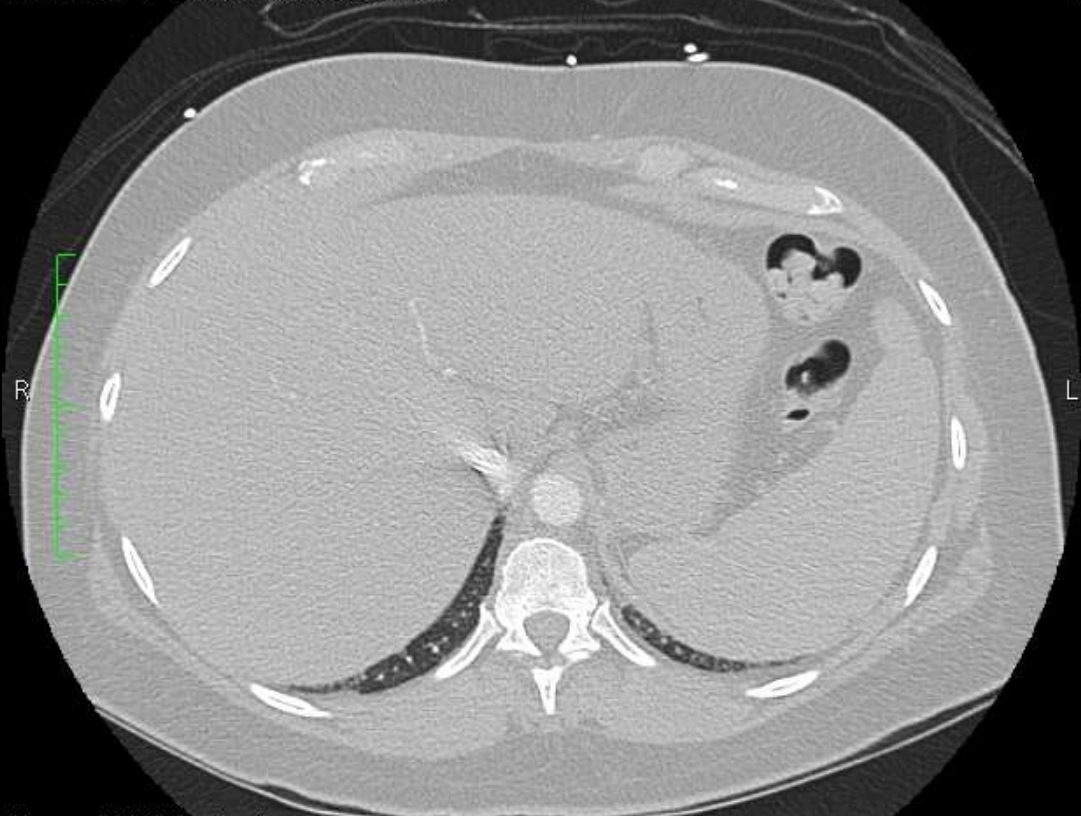
NOT FOR MEDICAL USAGE

7/6/12 5:40:48 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 5/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -145.00 mm P

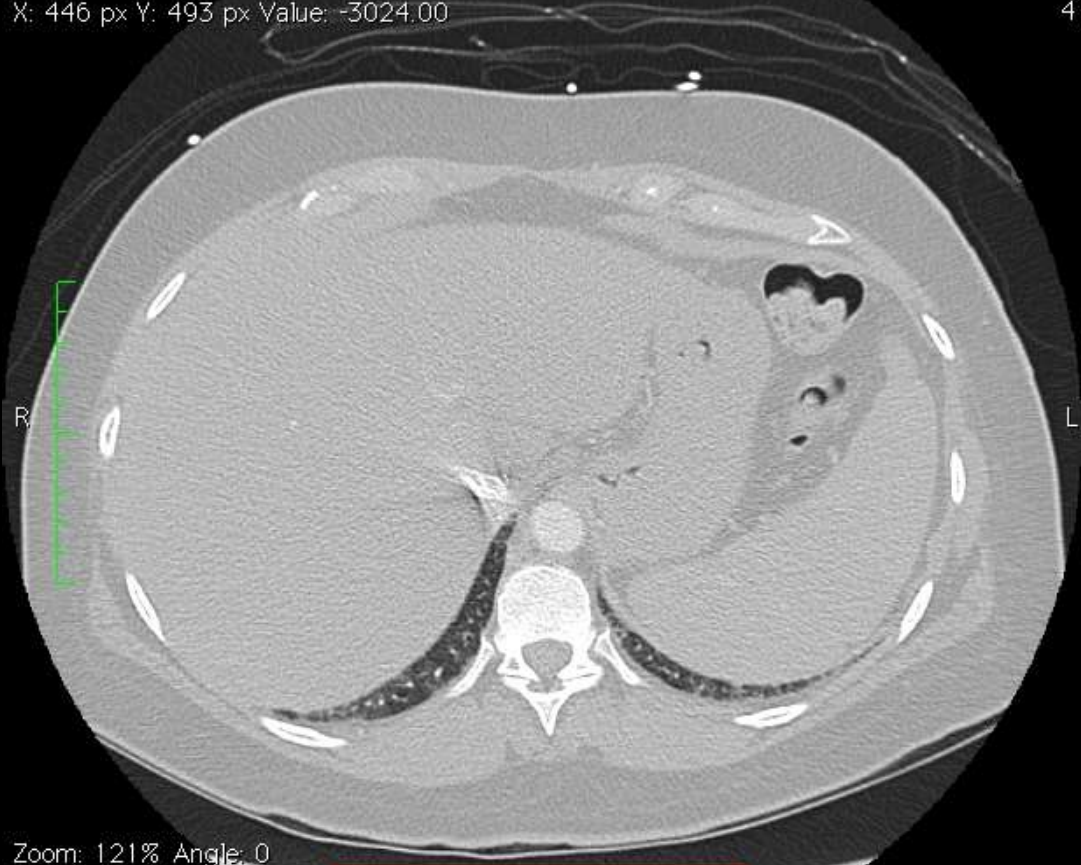
NOT FOR MEDICAL USAGE

7/6/12 5:40:48 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 6/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -142.50 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:48 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 7/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -140.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:49 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 8/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -137.50 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:49 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 9/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -135.00 mm P

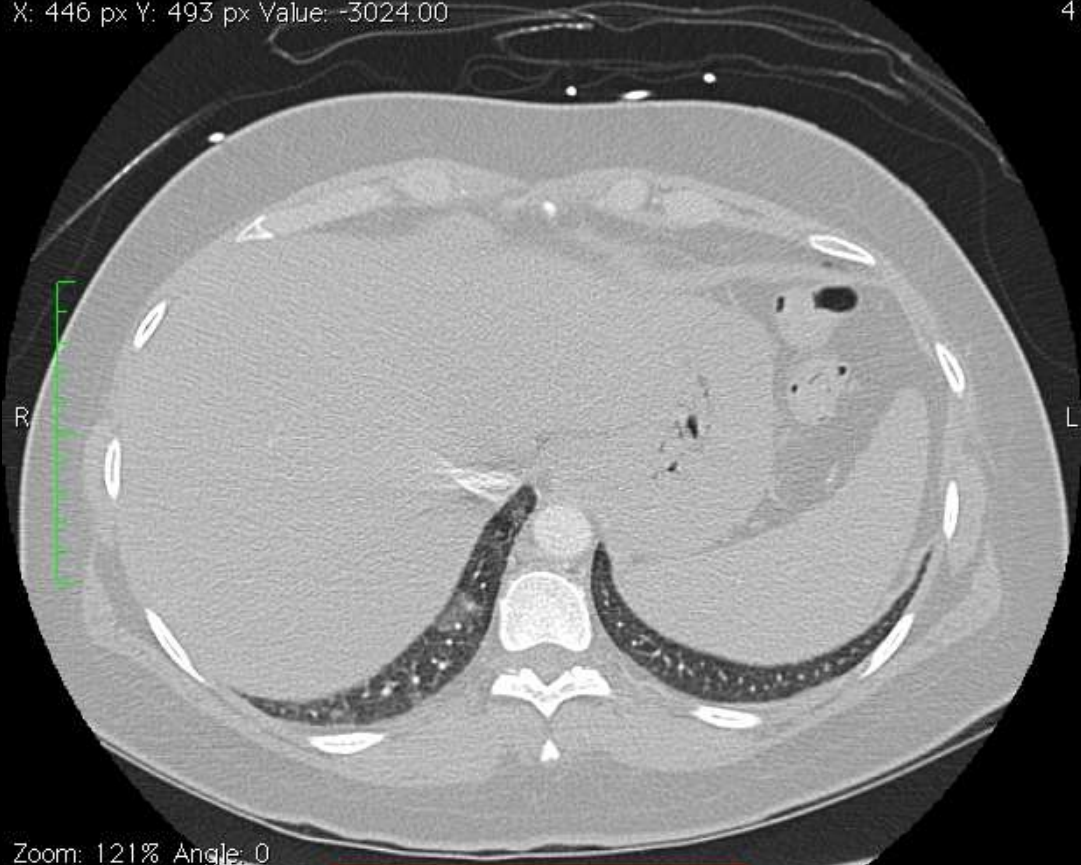
NOT FOR MEDICAL USAGE

7/6/12 5:40:49 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A
1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 10/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -132.50 mm P

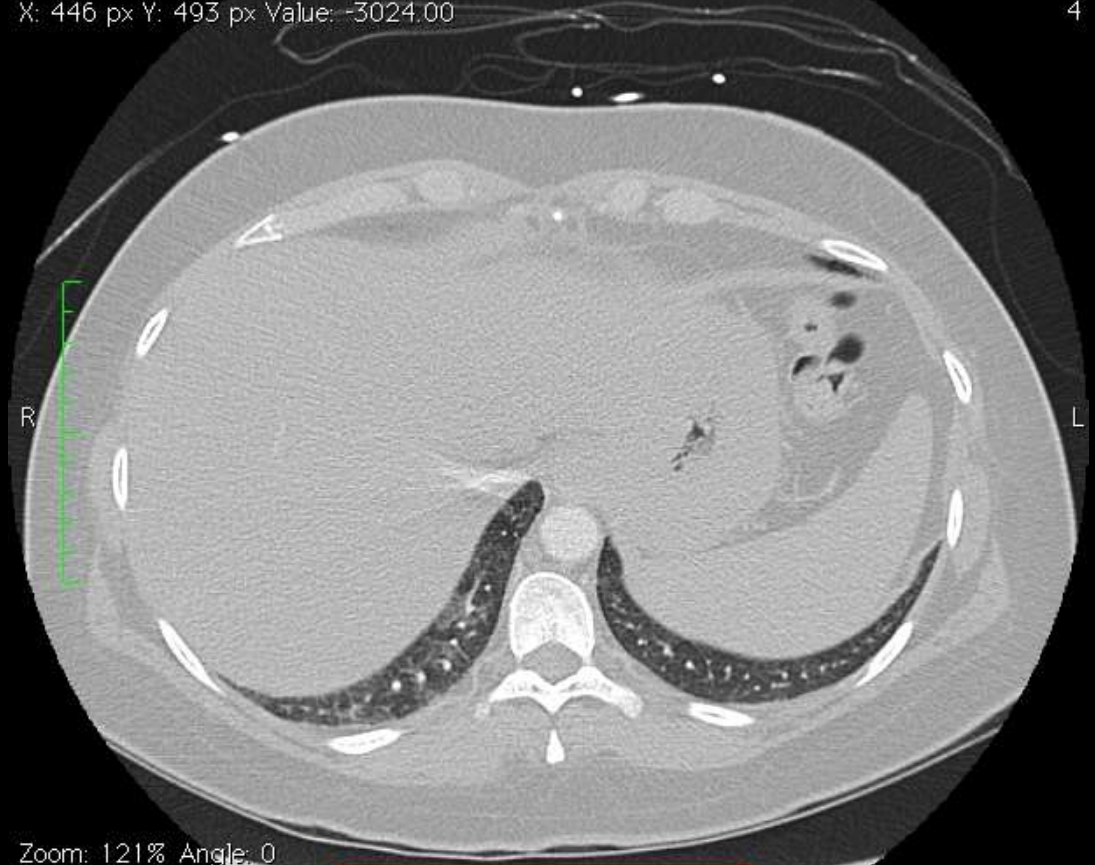
NOT FOR MEDICAL USAGE

7/6/12 5:40:50 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 11/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -130.00 mm P

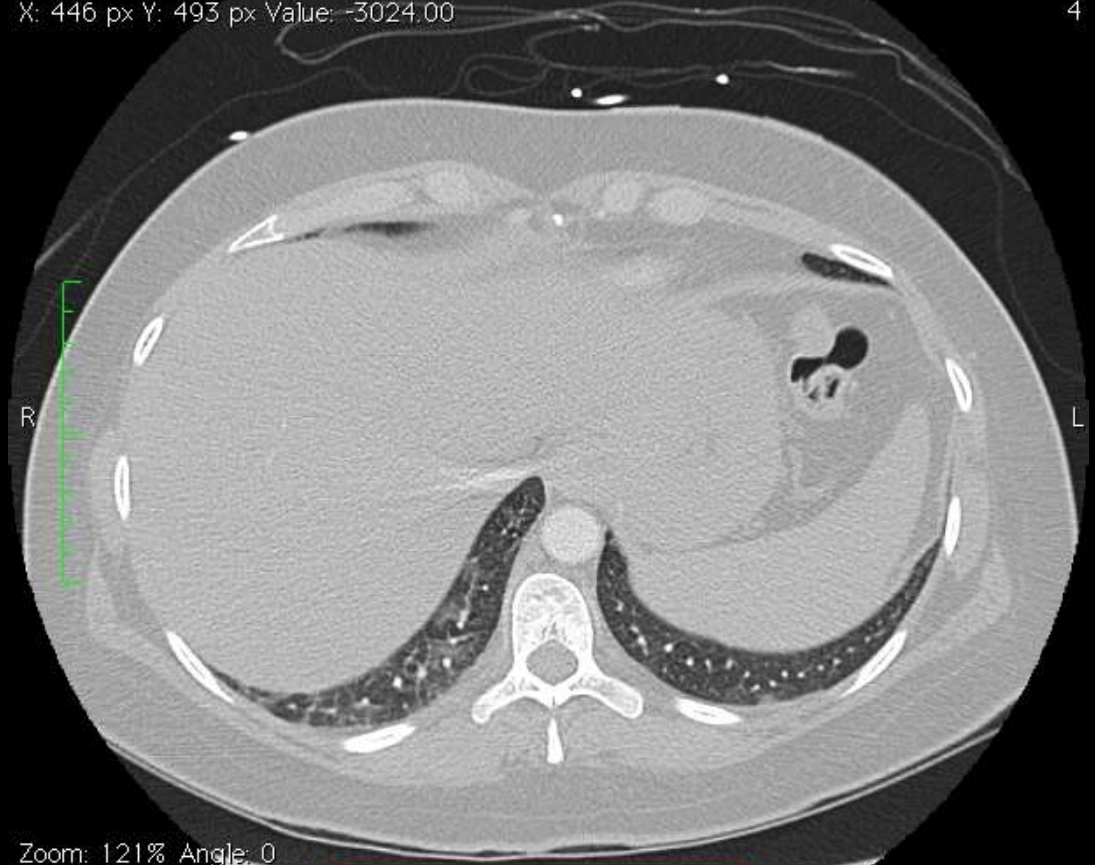
NOT FOR MEDICAL USAGE

7/6/12 5:40:50 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 12/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -127.50 mm P

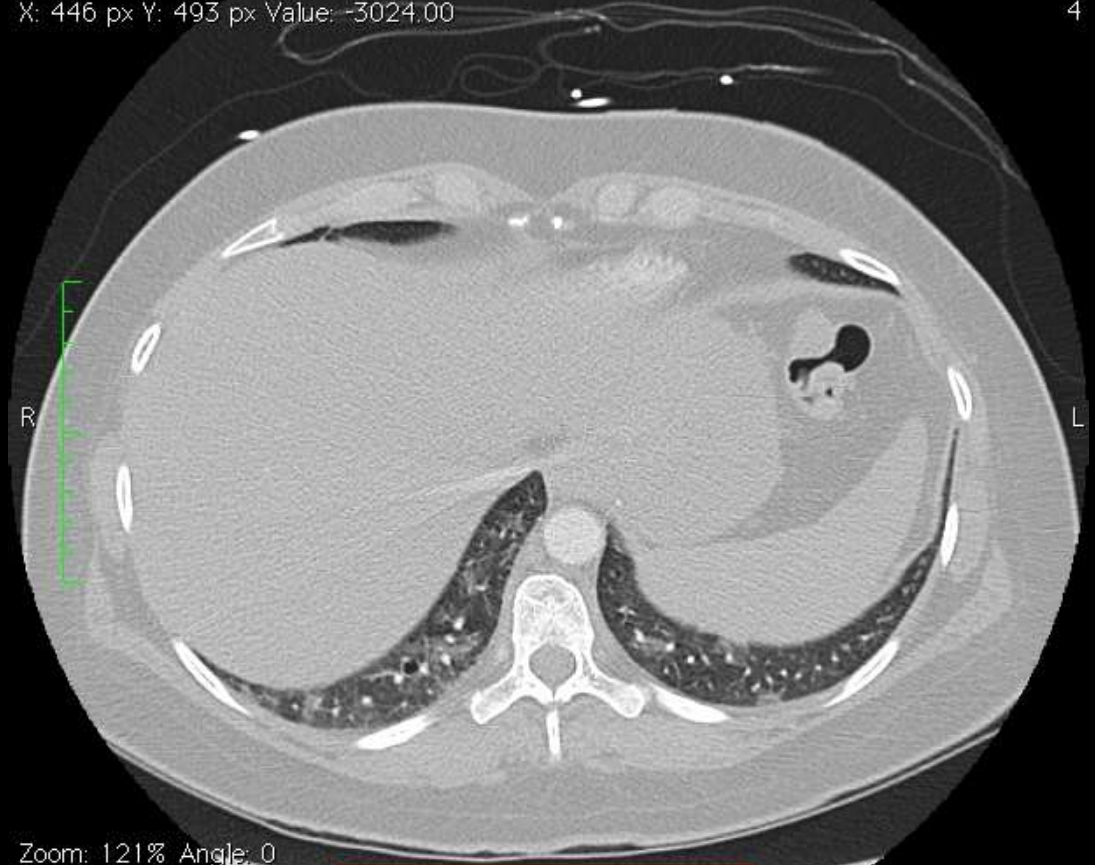
NOT FOR MEDICAL USAGE

7/6/12 5:40:50 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 13/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -125.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A
1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 14/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -122.50 mm P

NOT FOR MEDICAL USAGE

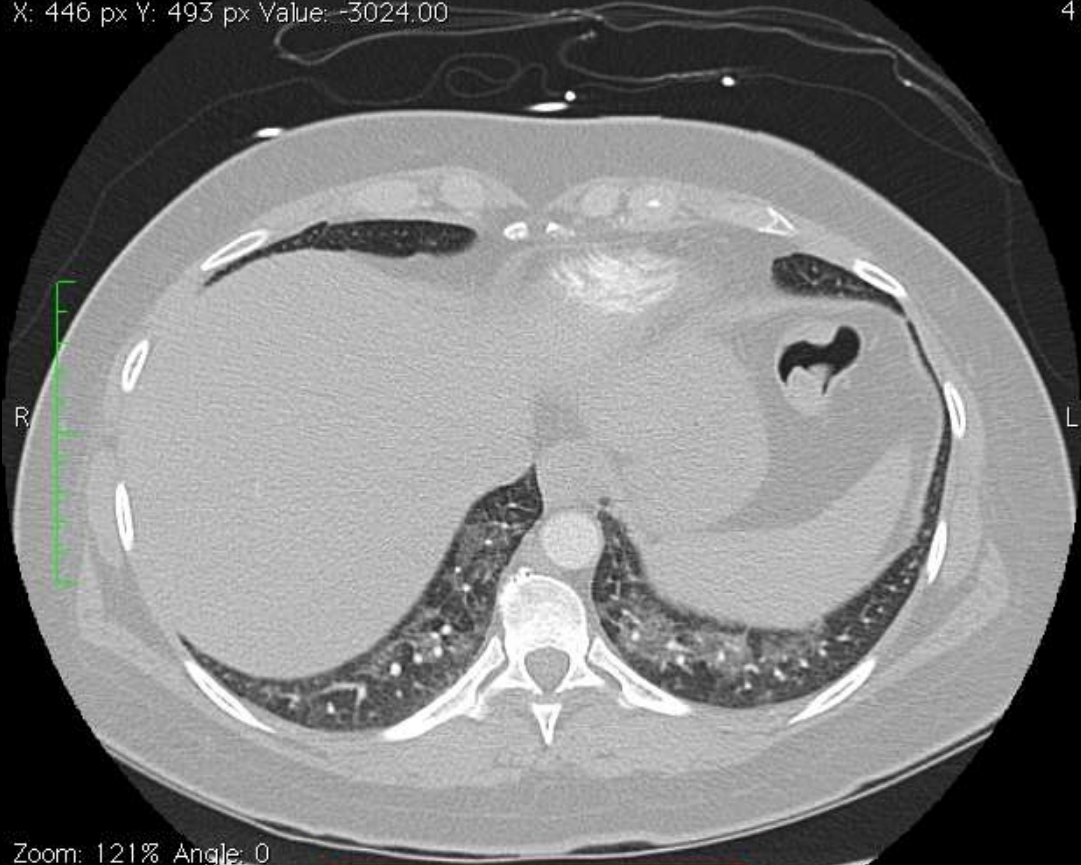


7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 15/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -120.00 mm P

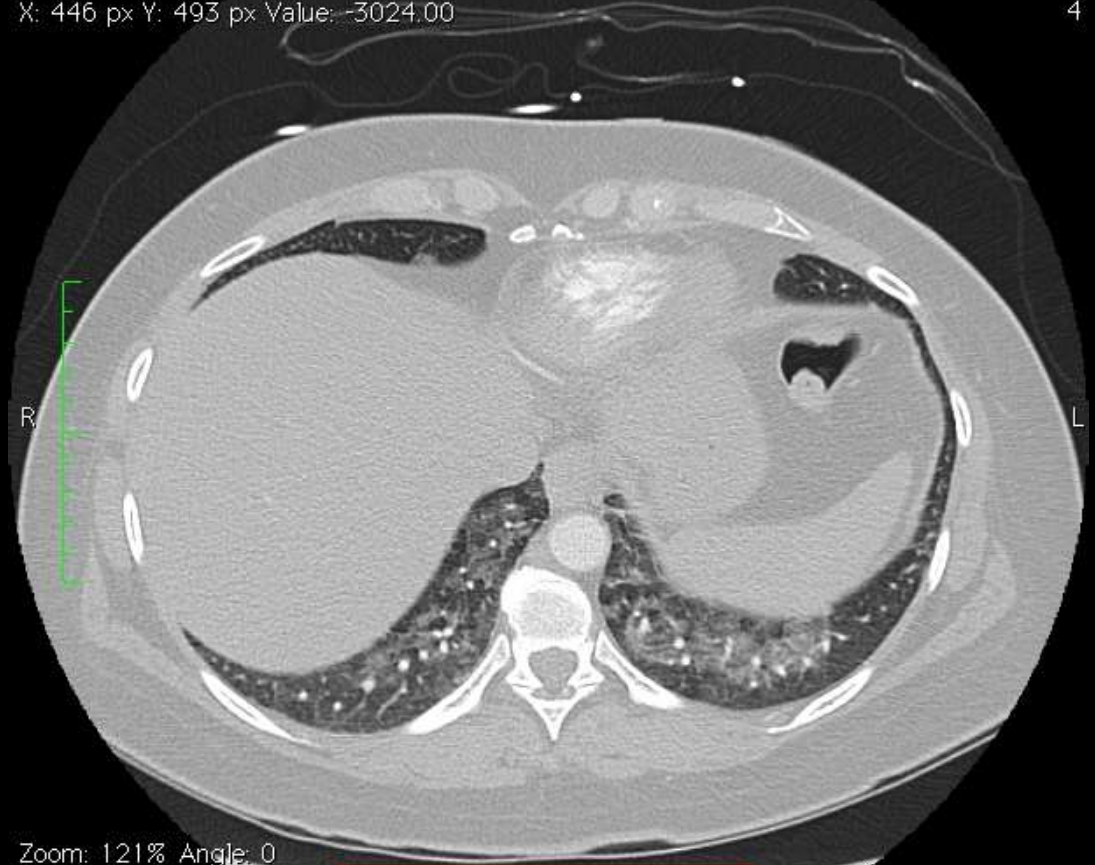
NOT FOR MEDICAL USAGE

7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 16/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -117.50 mm P

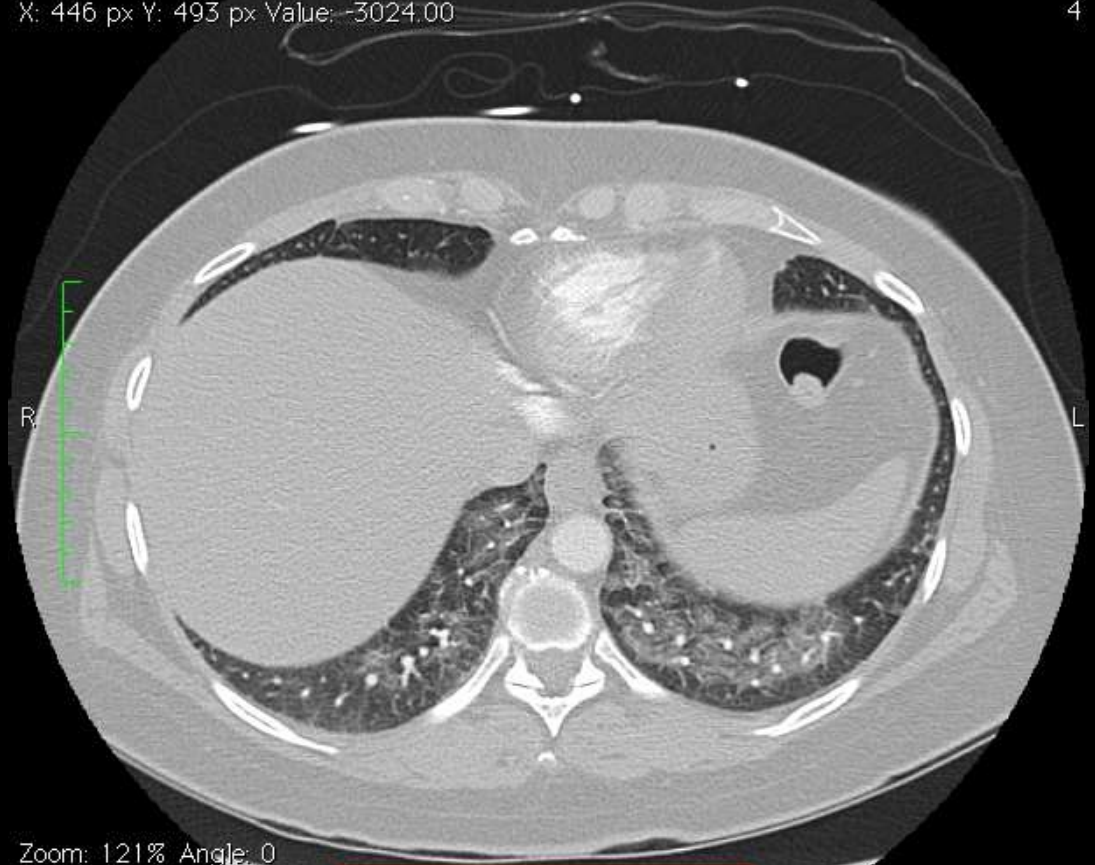
NOT FOR MEDICAL USAGE

7/6/12 5:40:52 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 17/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -115.00 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:52 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 18/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -112.50 mm P

NOT FOR MEDICAL USAGE

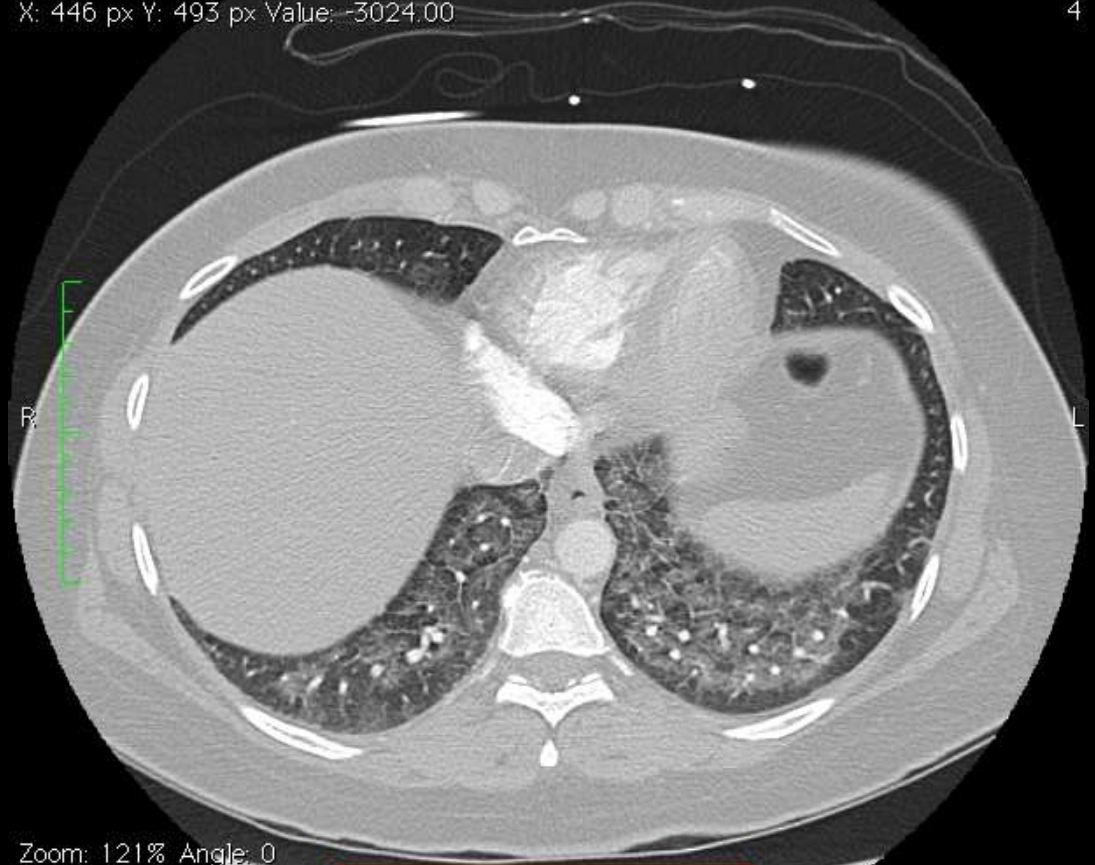


7/6/12 5:40:52 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 19/89 1 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -110.00 mm P

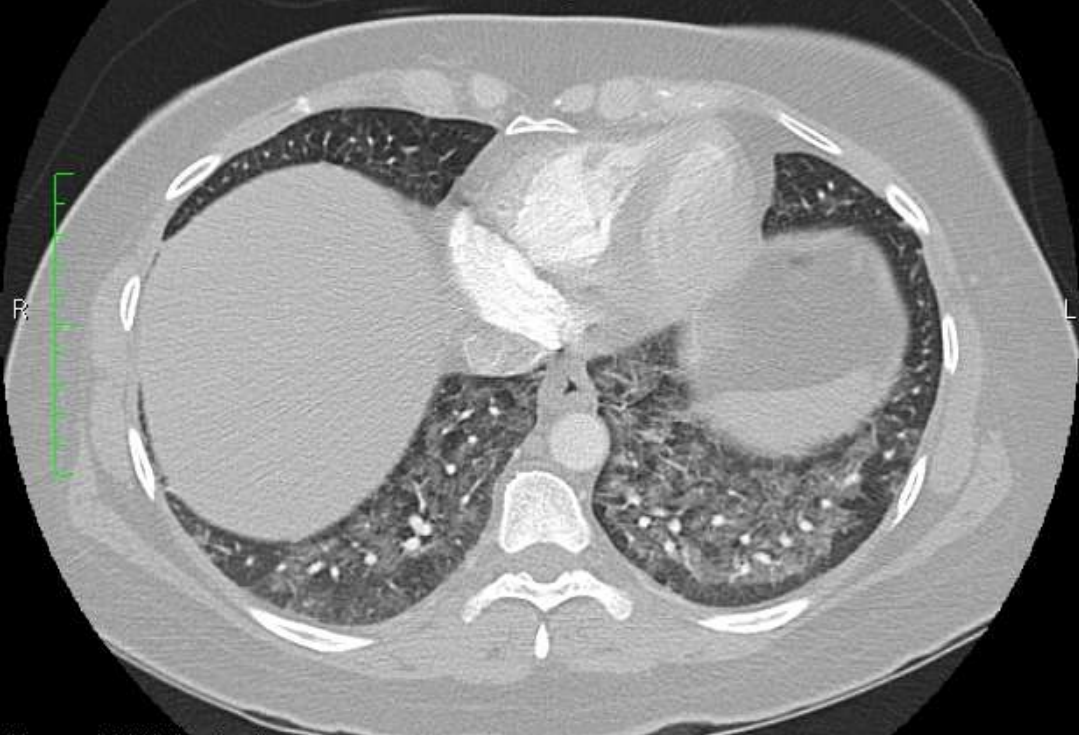
NOT FOR MEDICAL USAGE

7/6/12 5:40:52 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 20/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -107.50 mm P

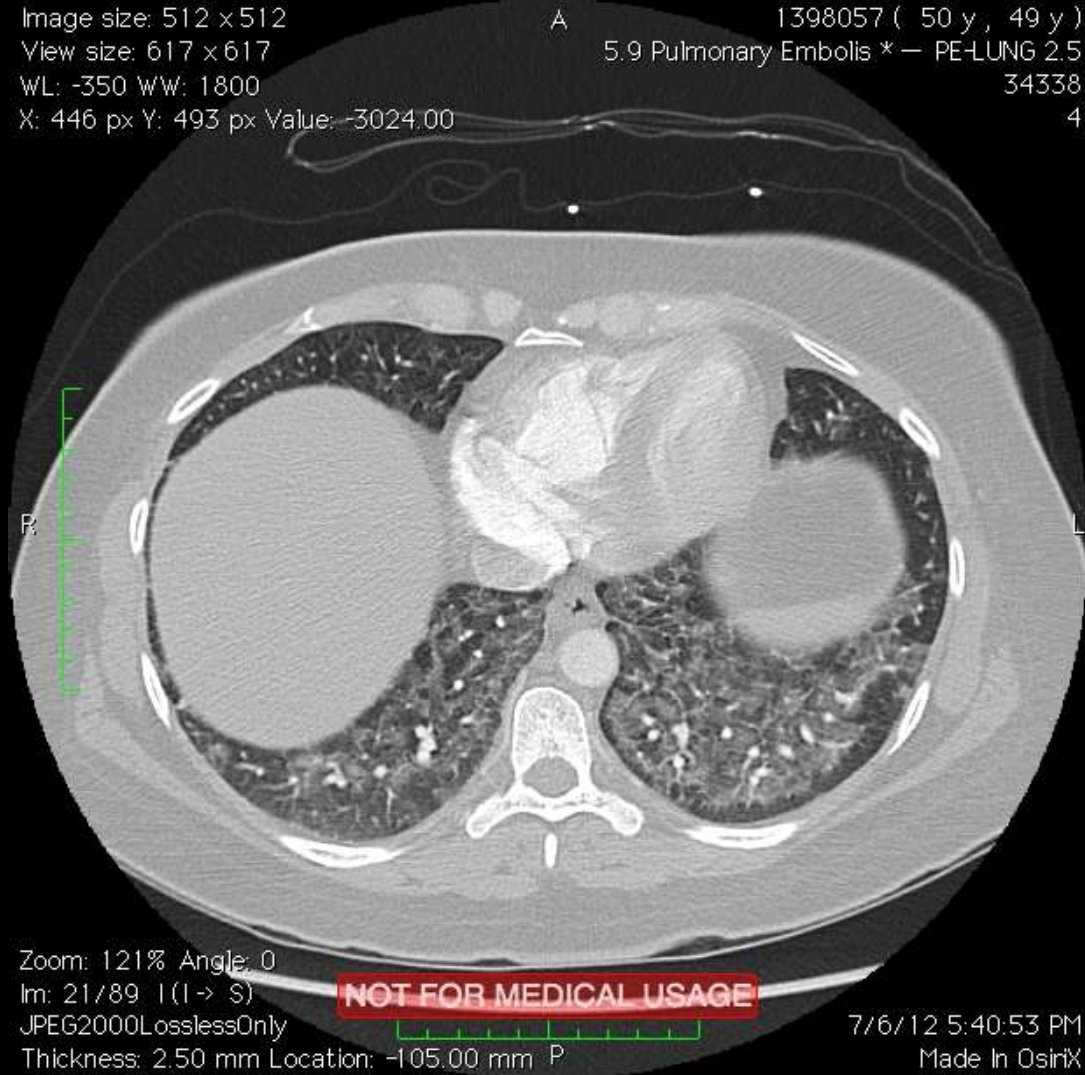
NOT FOR MEDICAL USAGE

7/6/12 5:40:53 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 21/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -105.00 mm P

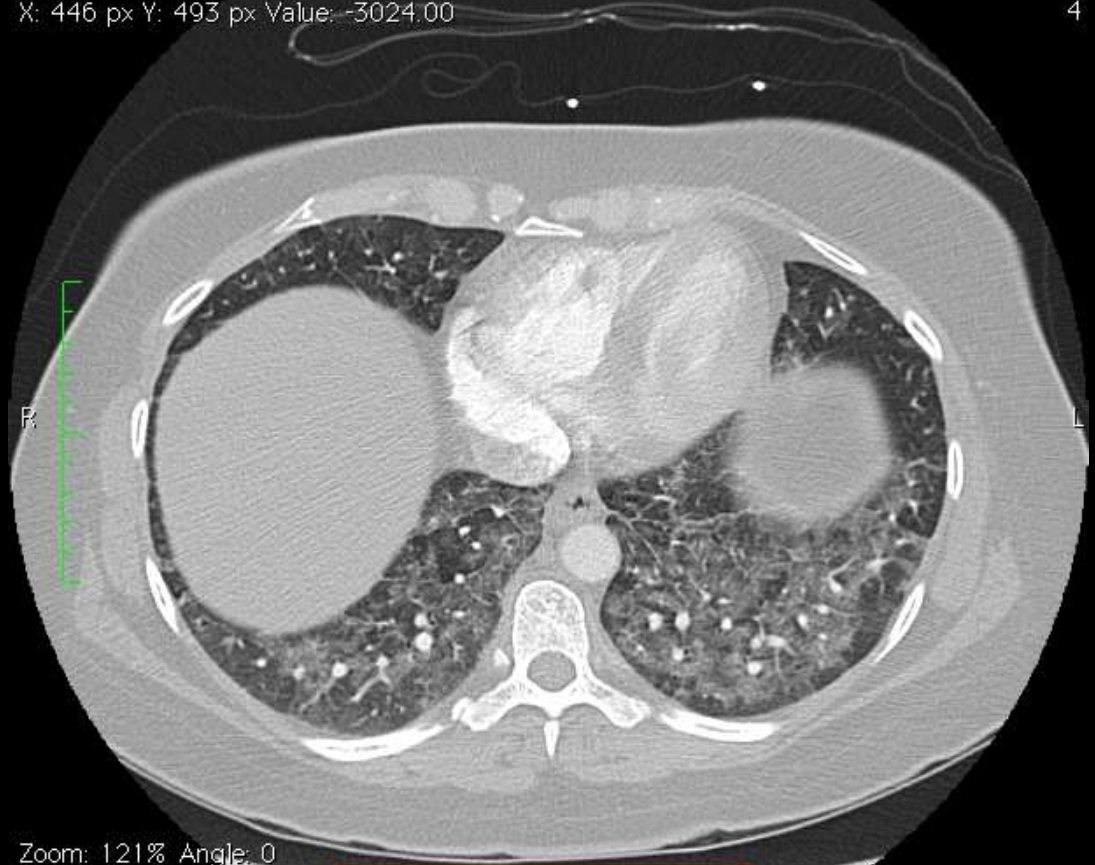
NOT FOR MEDICAL USAGE

7/6/12 5:40:53 PM
Made In Osirix



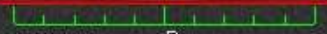
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 22/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -102.50 mm P

NOT FOR MEDICAL USAGE

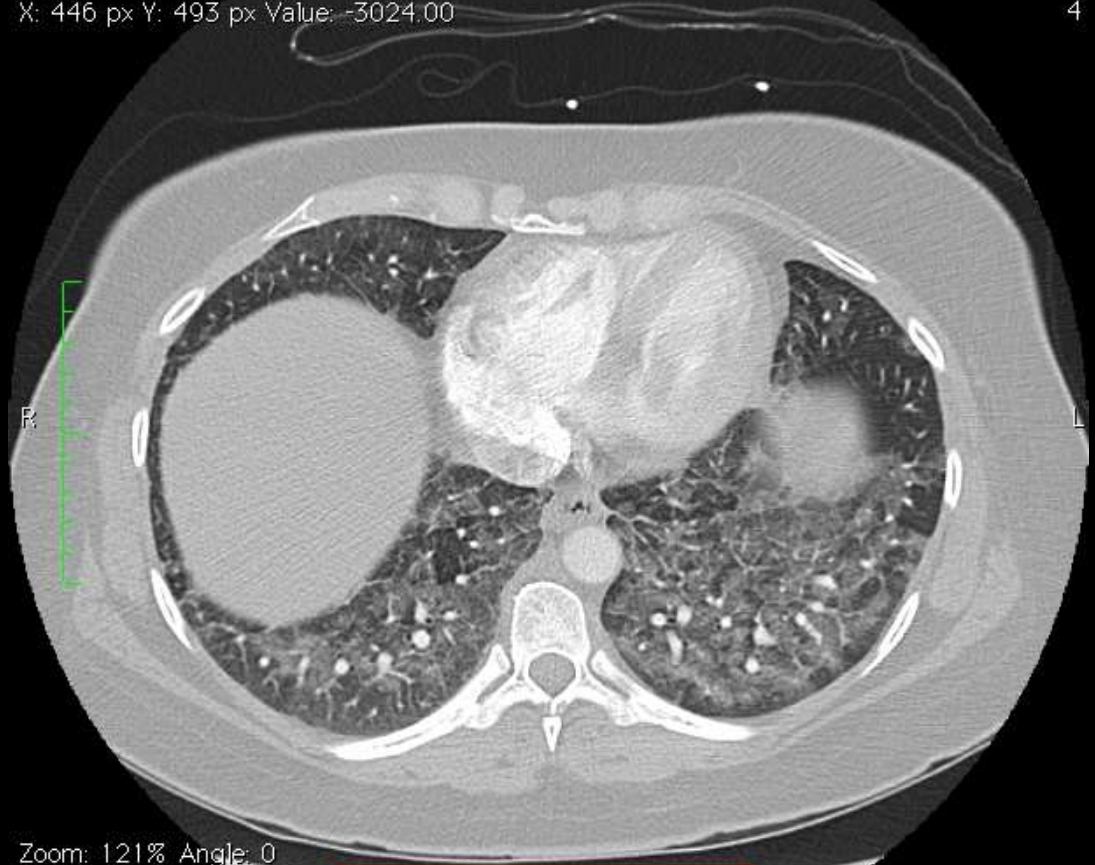


7/6/12 5:40:53 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 23/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -100.00 mm P

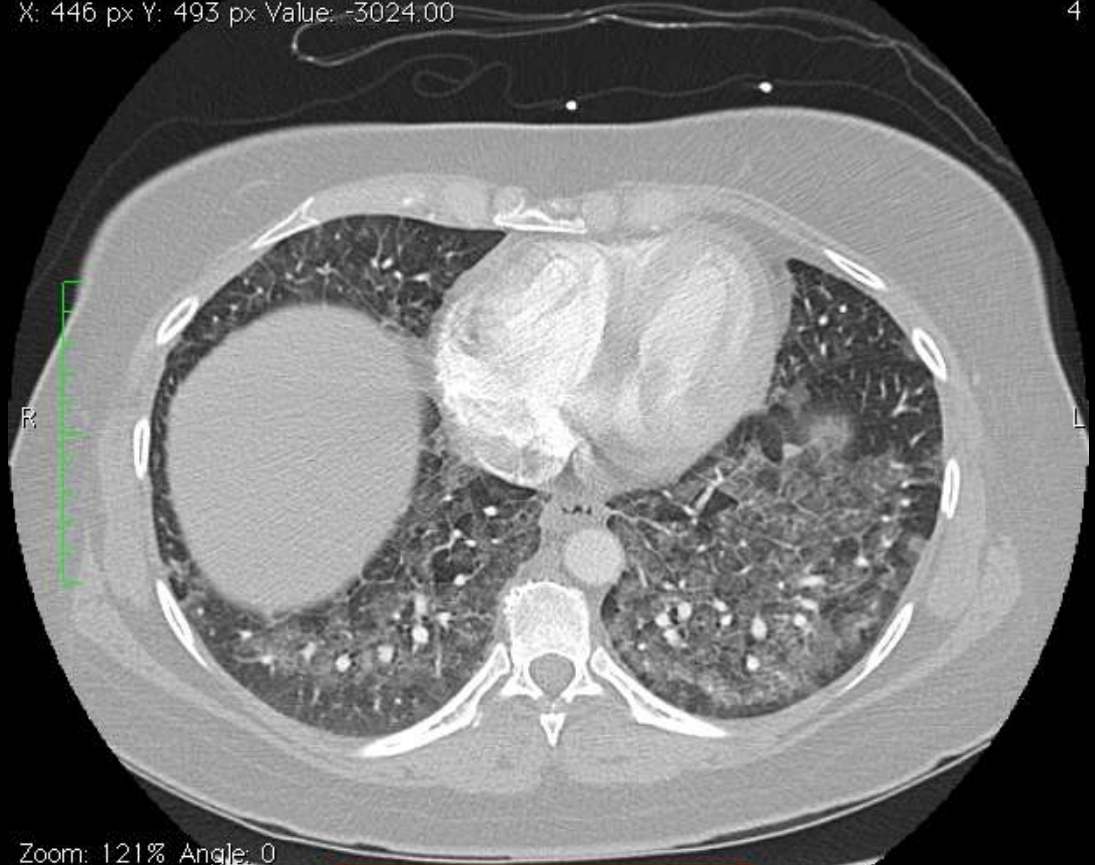
NOT FOR MEDICAL USAGE

7/6/12 5:40:53 PM
Made In Osirix



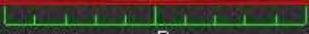
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 24/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -97.50 mm P

NOT FOR MEDICAL USAGE

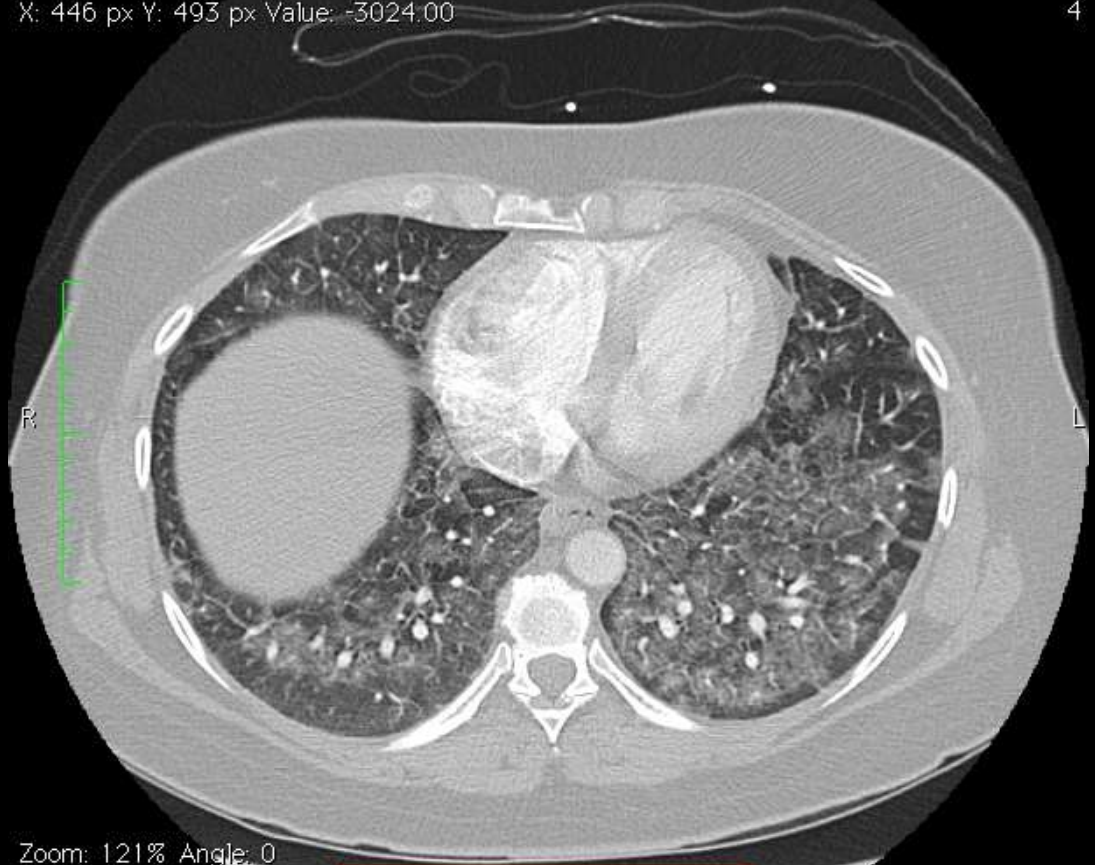


7/6/12 5:40:54 PM
Made In Osirix



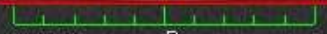
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 25/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -95.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 26/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -92.50 mm P

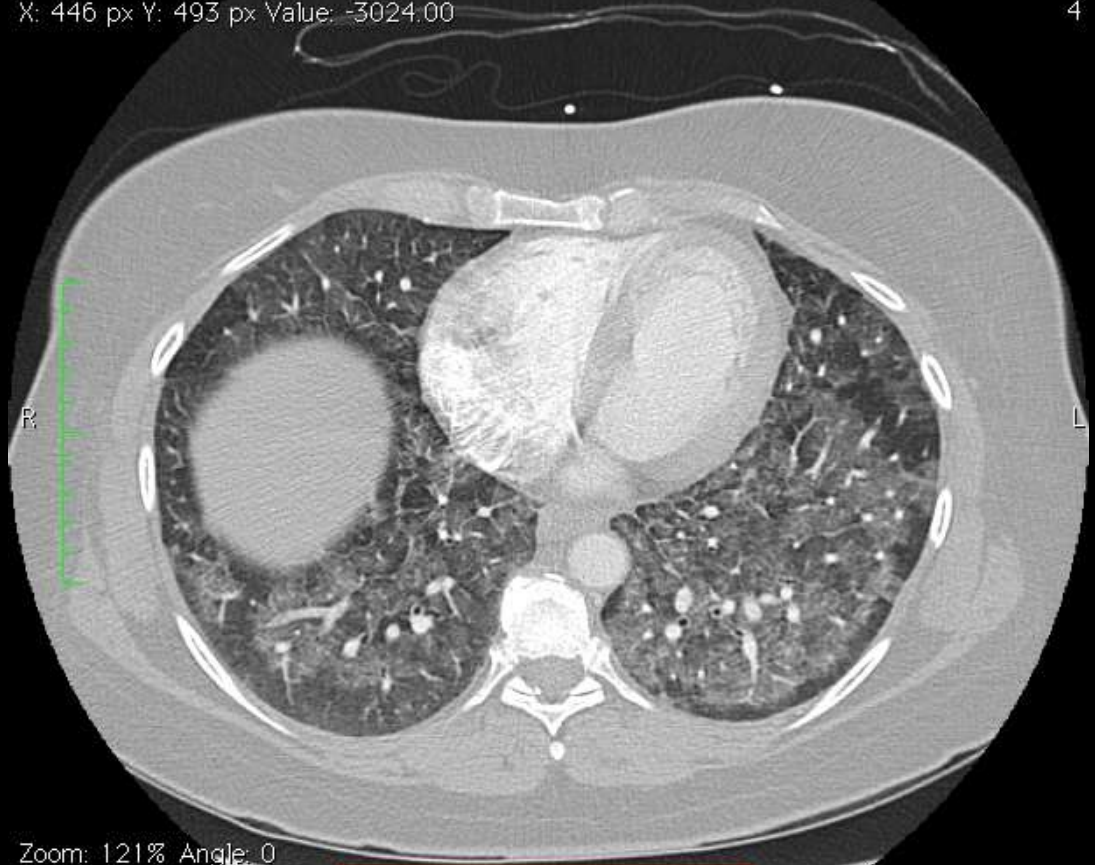
NOT FOR MEDICAL USAGE

7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 27/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -90.00 mm P

NOT FOR MEDICAL USAGE

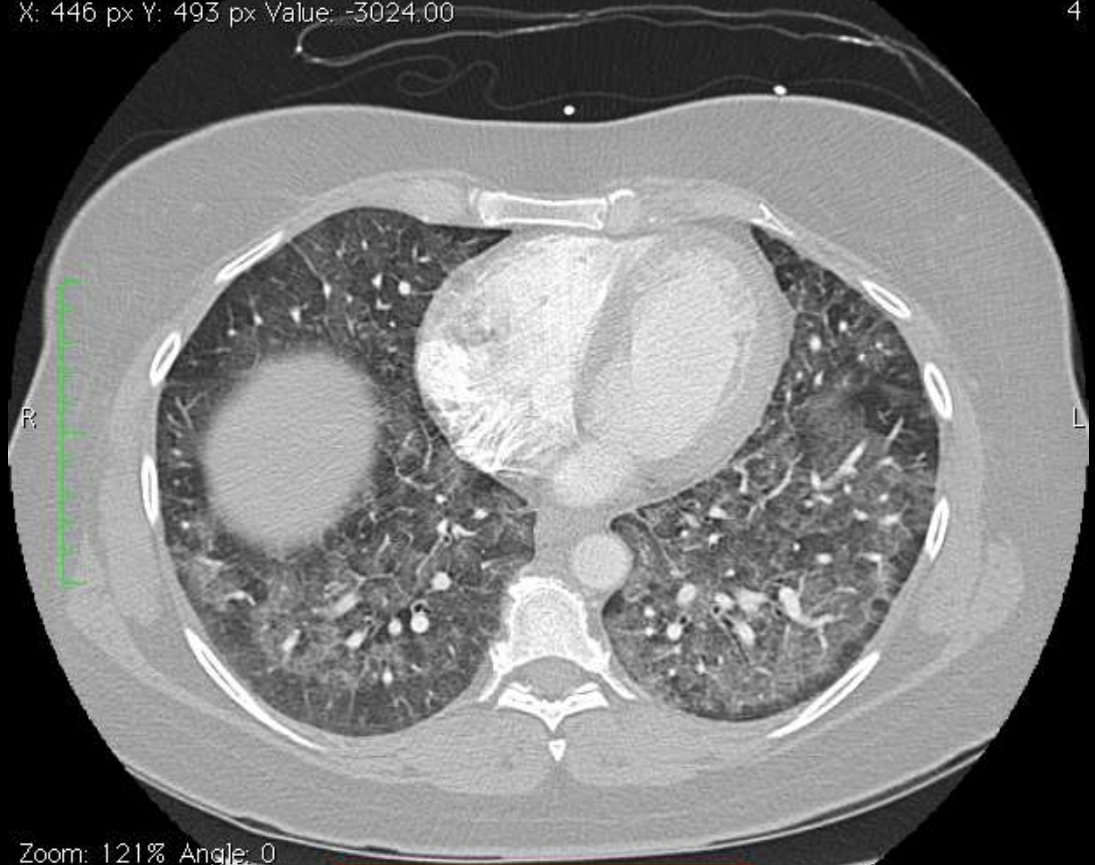


7/6/12 5:40:54 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 28/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -87.50 mm P

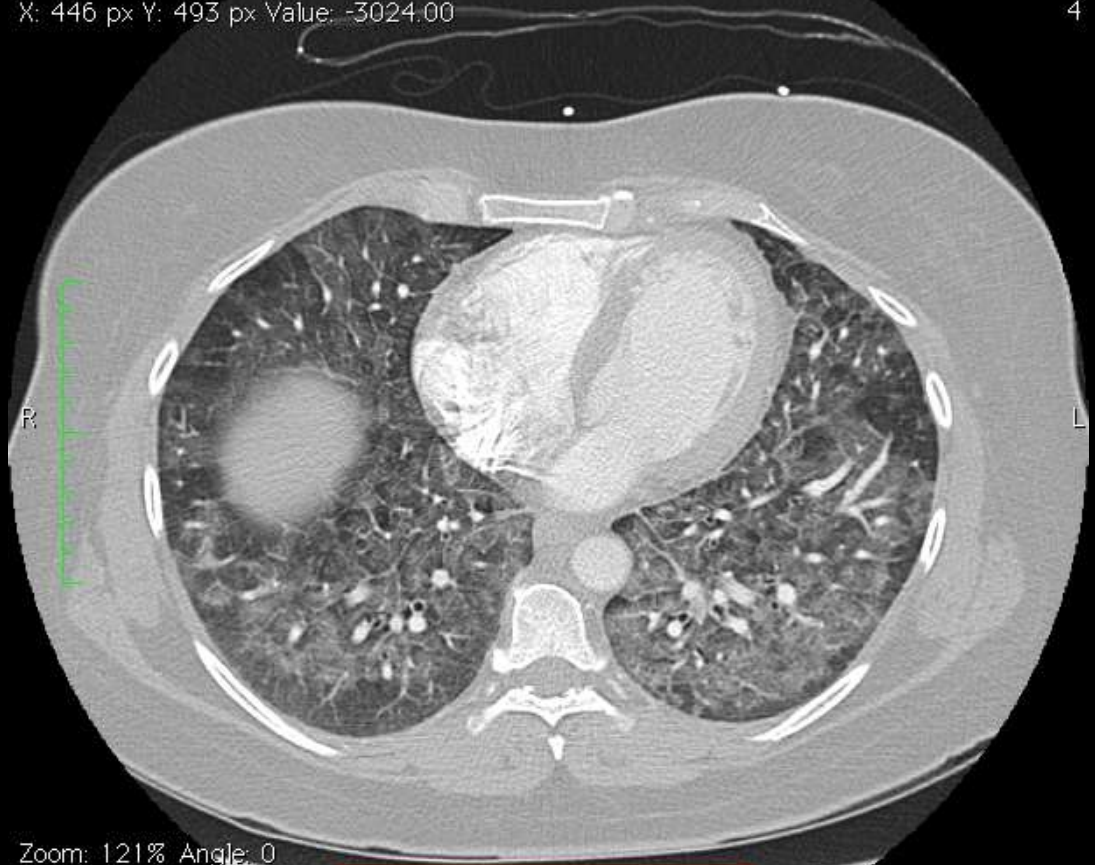
NOT FOR MEDICAL USAGE

7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 29/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -85.00 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:55 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 30/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -82.50 mm P

NOT FOR MEDICAL USAGE

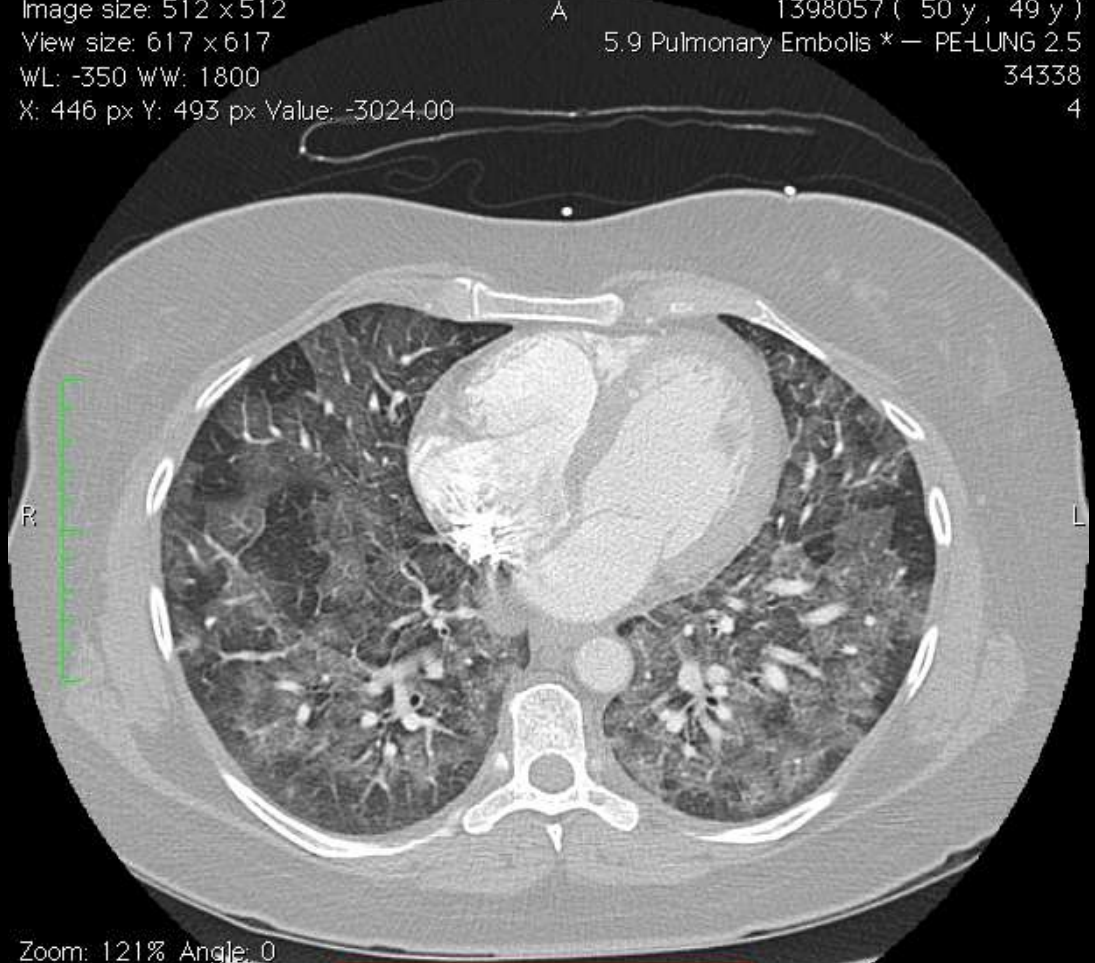


7/6/12 5:40:49 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 31/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -80.00 mm P

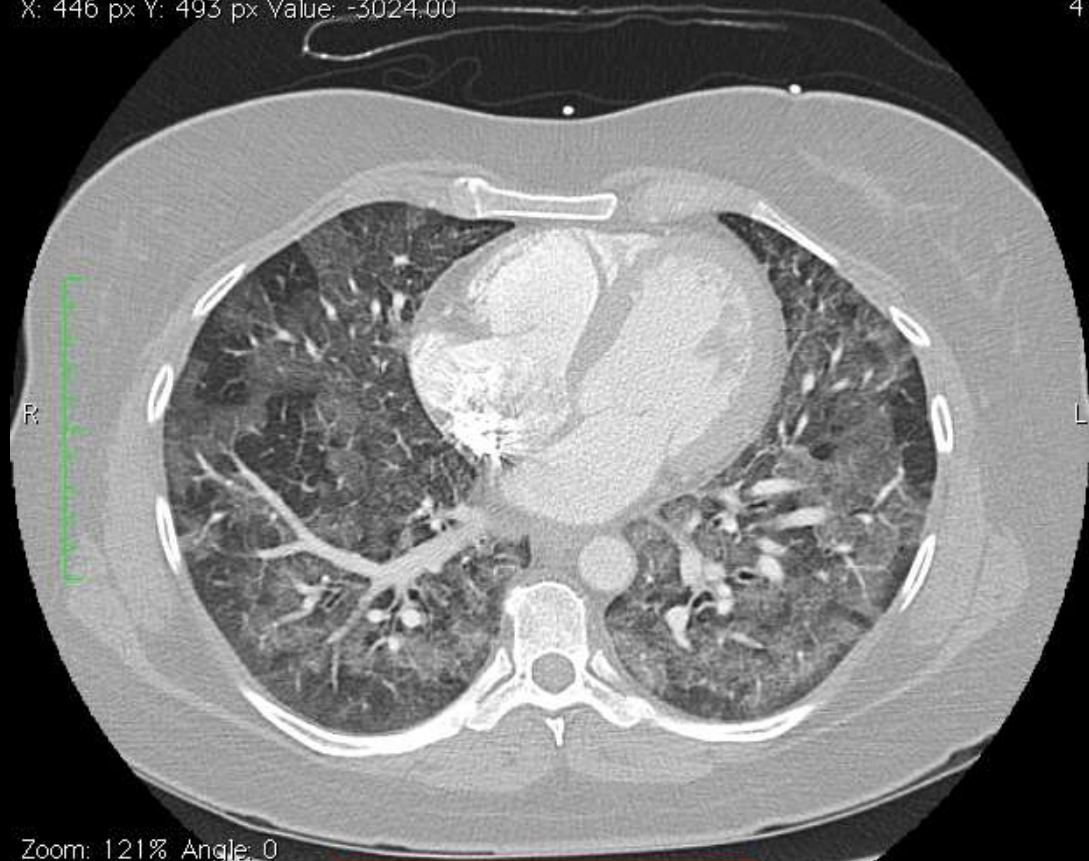
NOT FOR MEDICAL USAGE

7/6/12 5:40:50 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 32/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -77.50 mm P

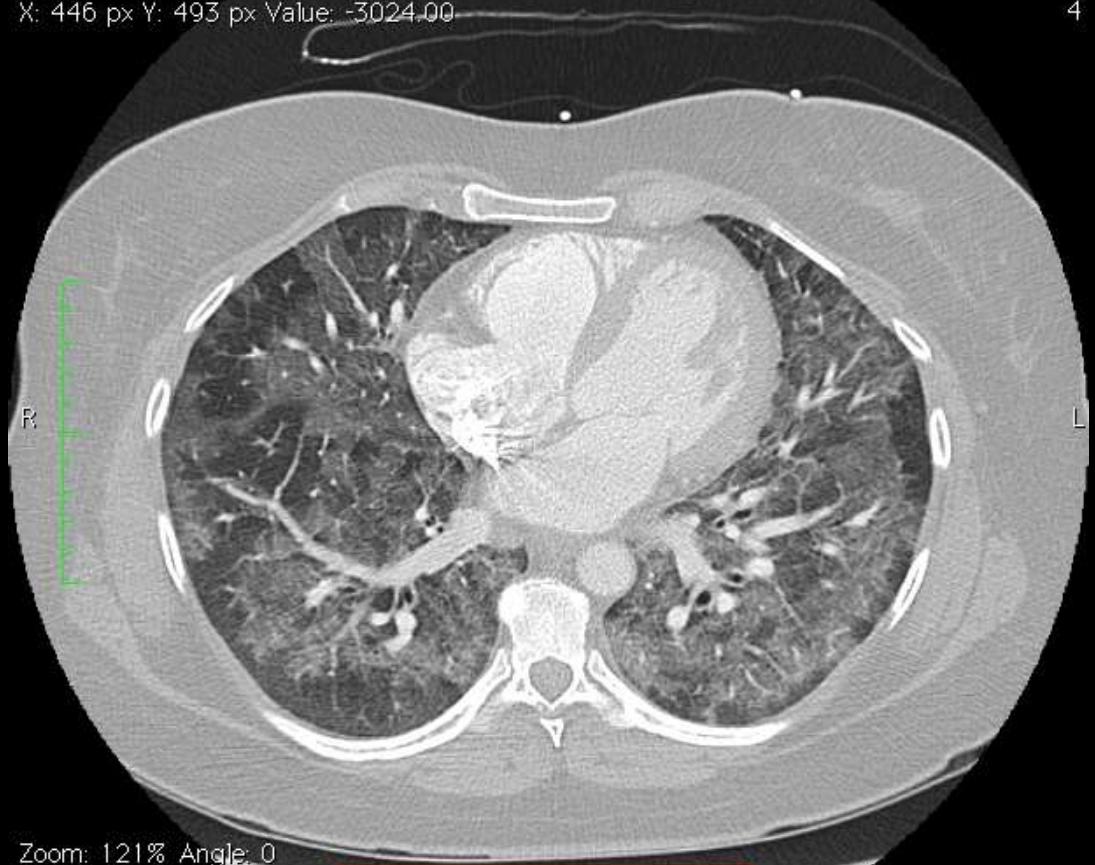
NOT FOR MEDICAL USAGE

7/6/12 5:40:50 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 33/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -75.00 mm P

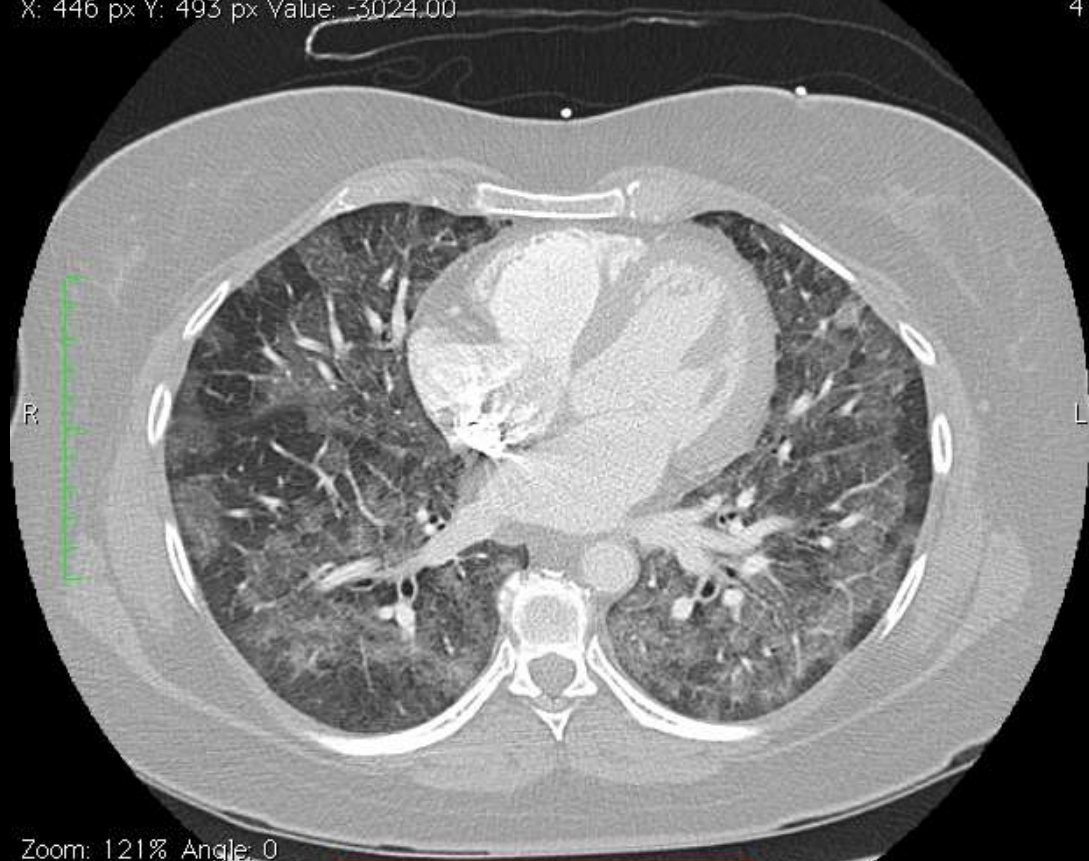
NOT FOR MEDICAL USAGE

7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 34/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -72.50 mm P

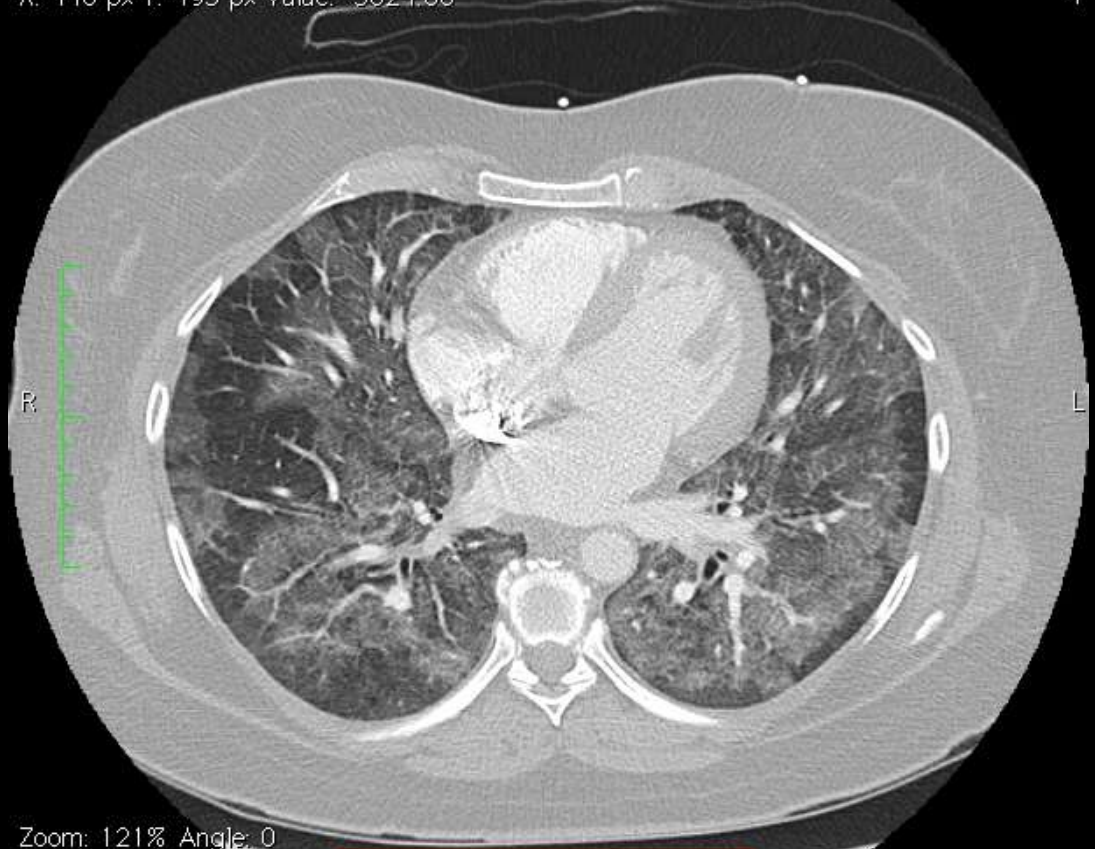
NOT FOR MEDICAL USAGE

7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 35/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -70.00 mm P

NOT FOR MEDICAL USAGE

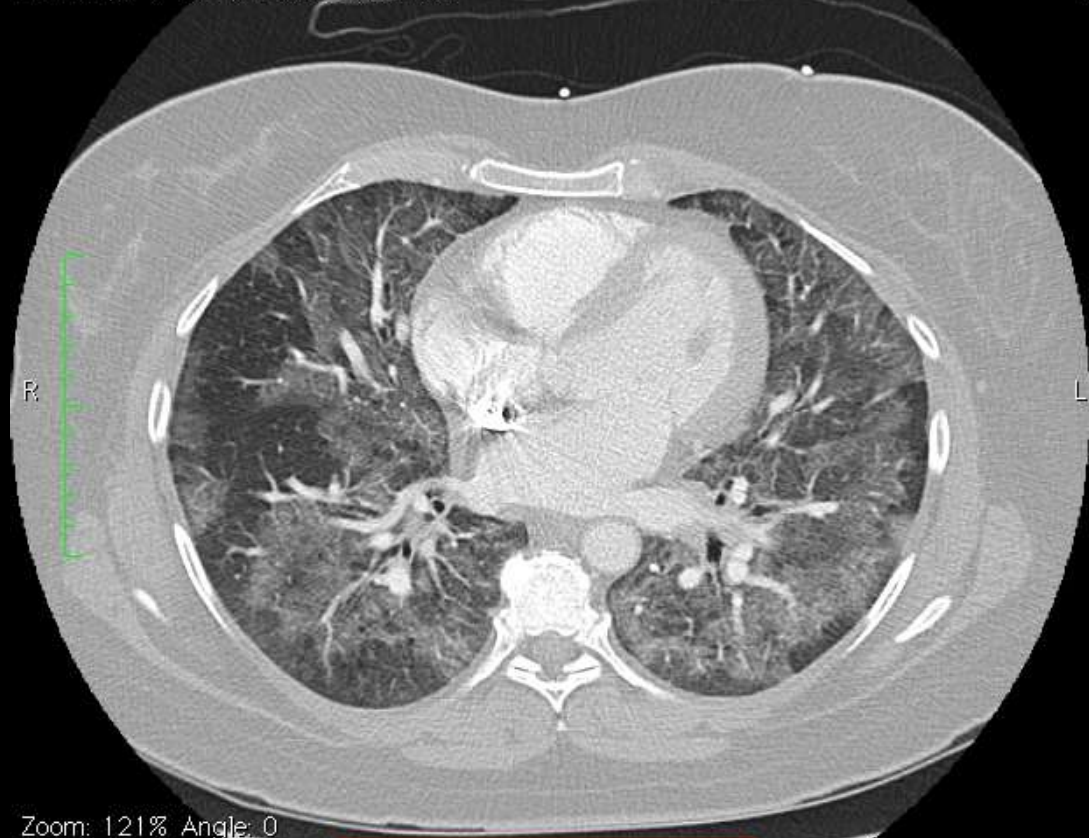


7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 36/89 1(I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -67.50 mm P

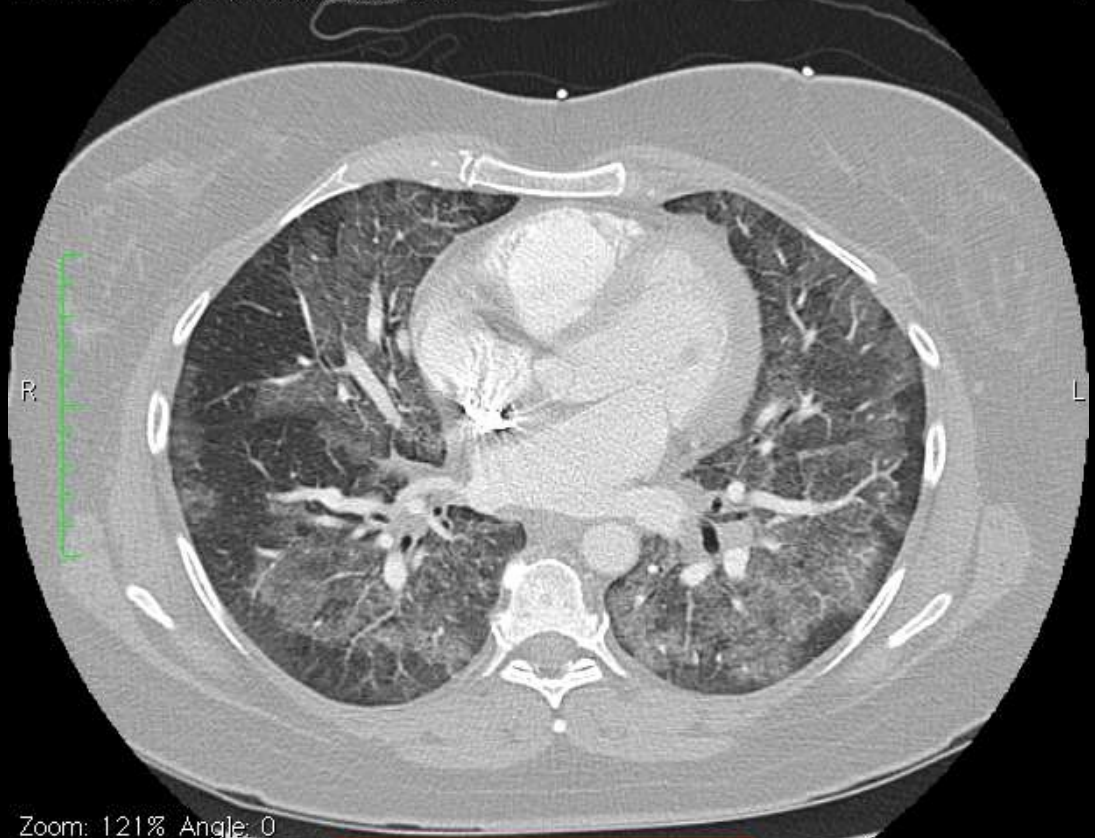
NOT FOR MEDICAL USAGE

7/6/12 5:40:52 PM
Made In Osirix



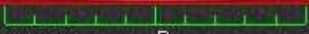
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 37/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -65.00 mm P

NOT FOR MEDICAL USAGE

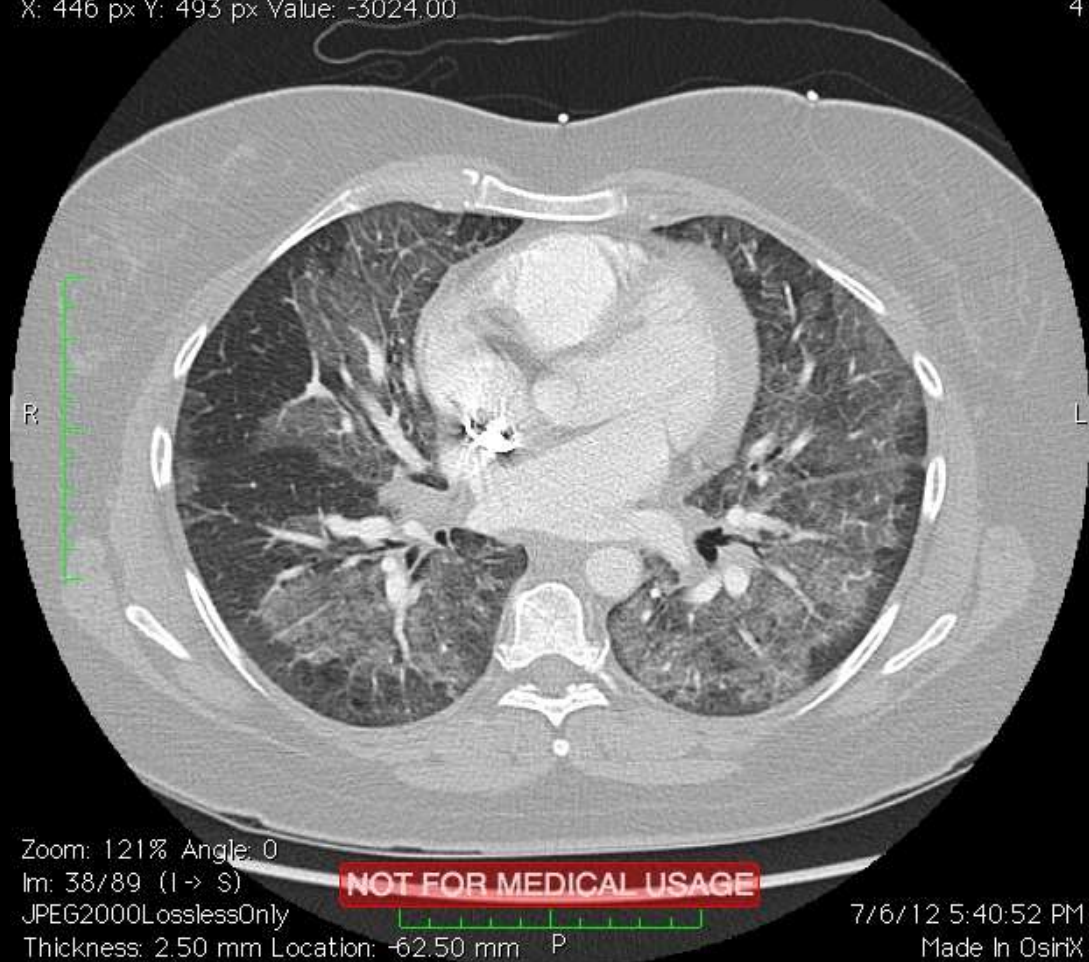


7/6/12 5:40:52 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A
1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 38/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -62.50 mm

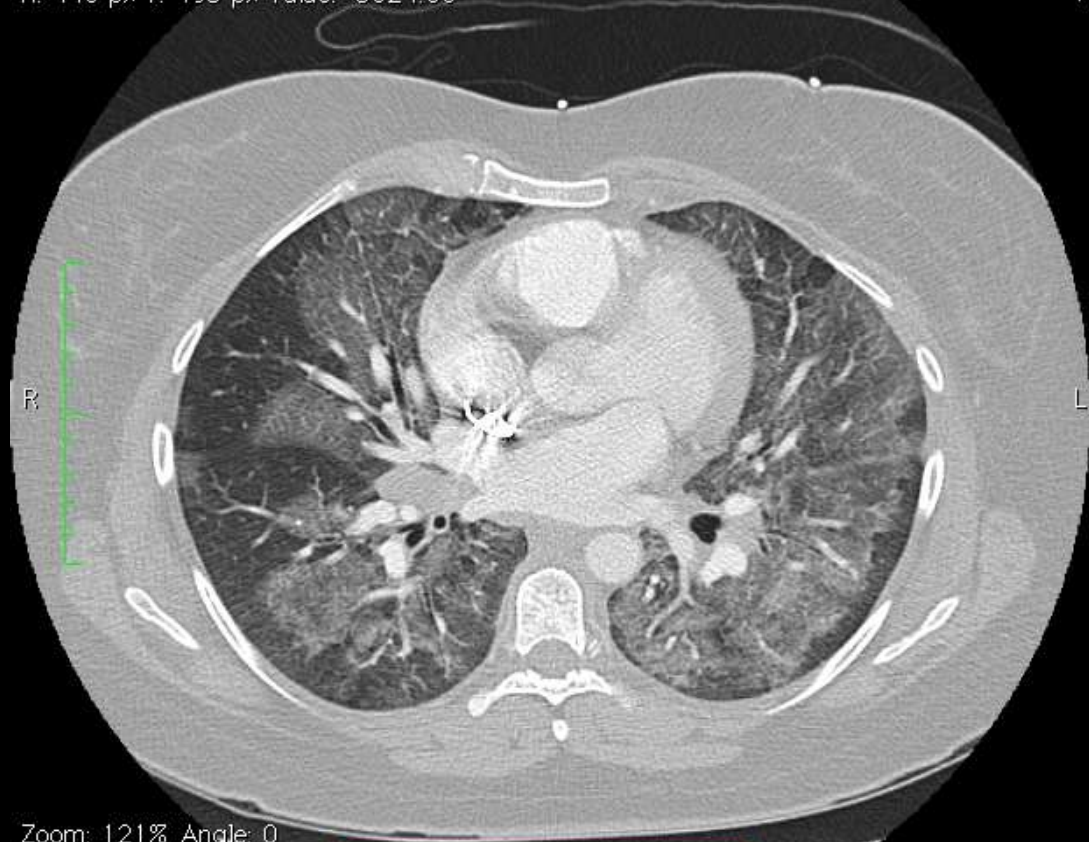
NOT FOR MEDICAL USAGE

7/6/12 5:40:52 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 39/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -60.00 mm

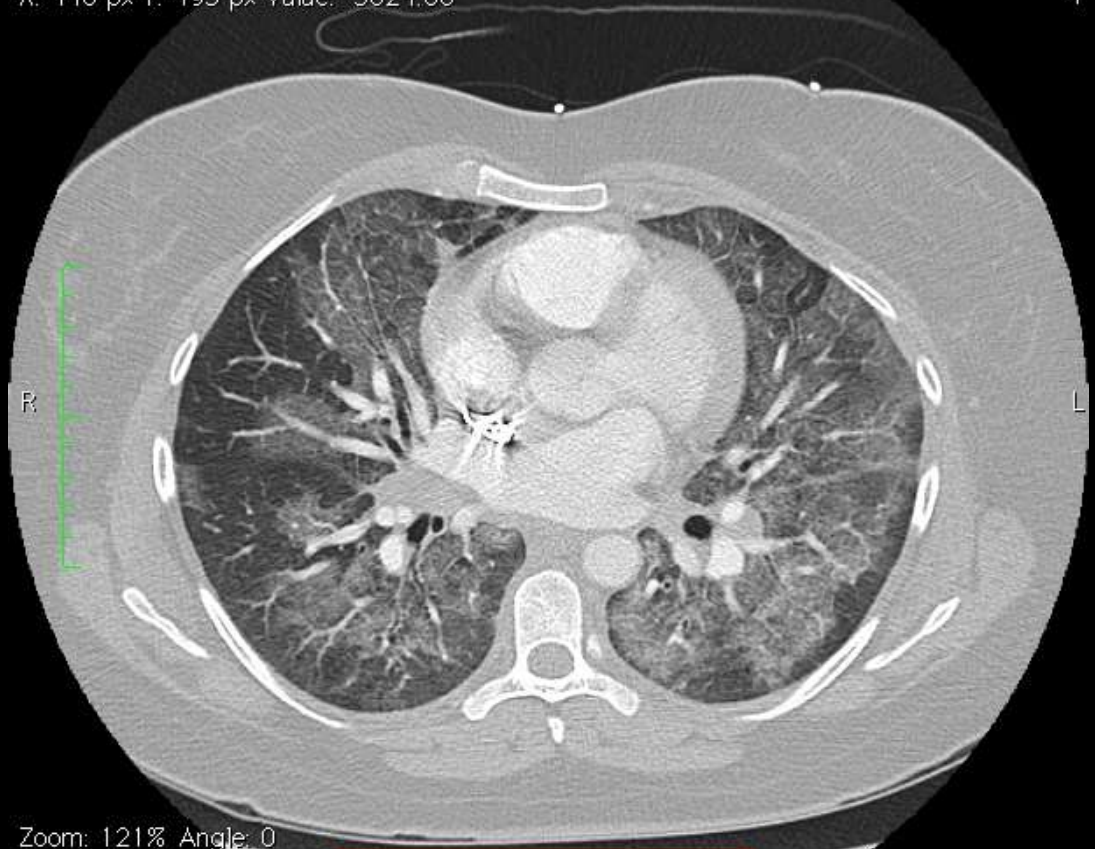
NOT FOR MEDICAL USAGE

7/6/12 5:40:53 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 40/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -57.50 mm P

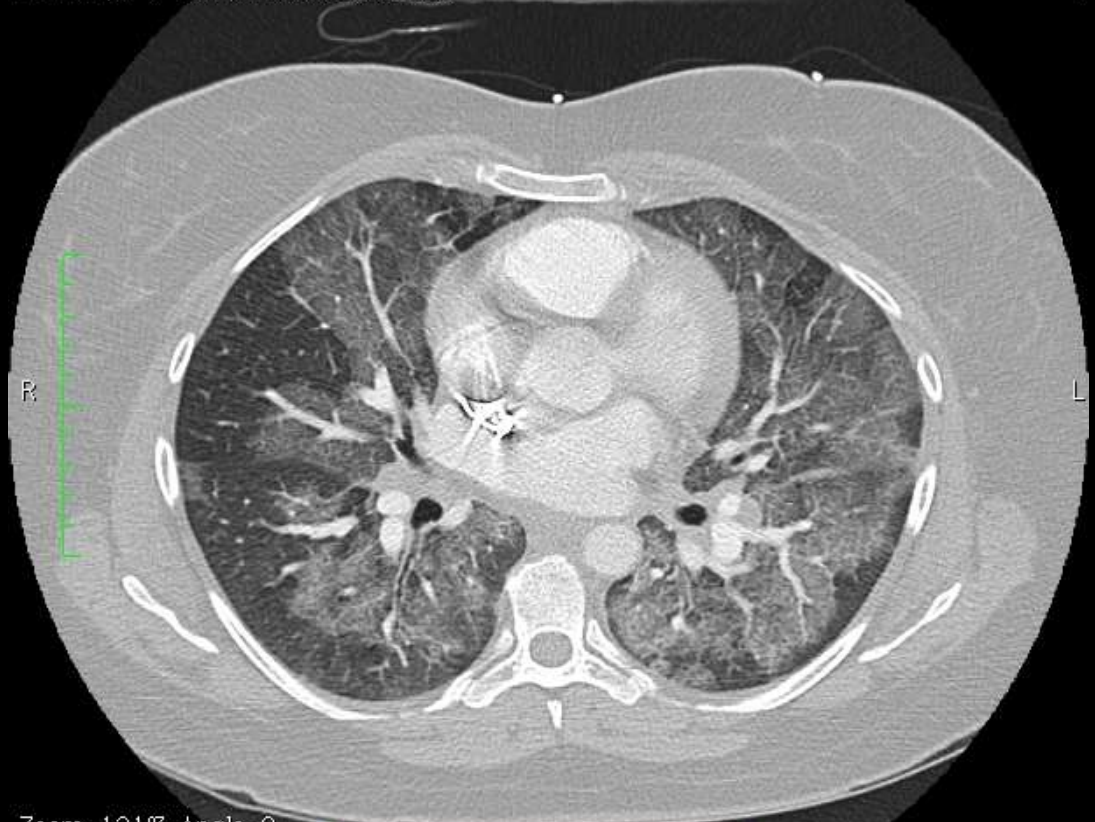
NOT FOR MEDICAL USAGE

7/6/12 5:40:53 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 41/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -55.00 mm P

NOT FOR MEDICAL USAGE

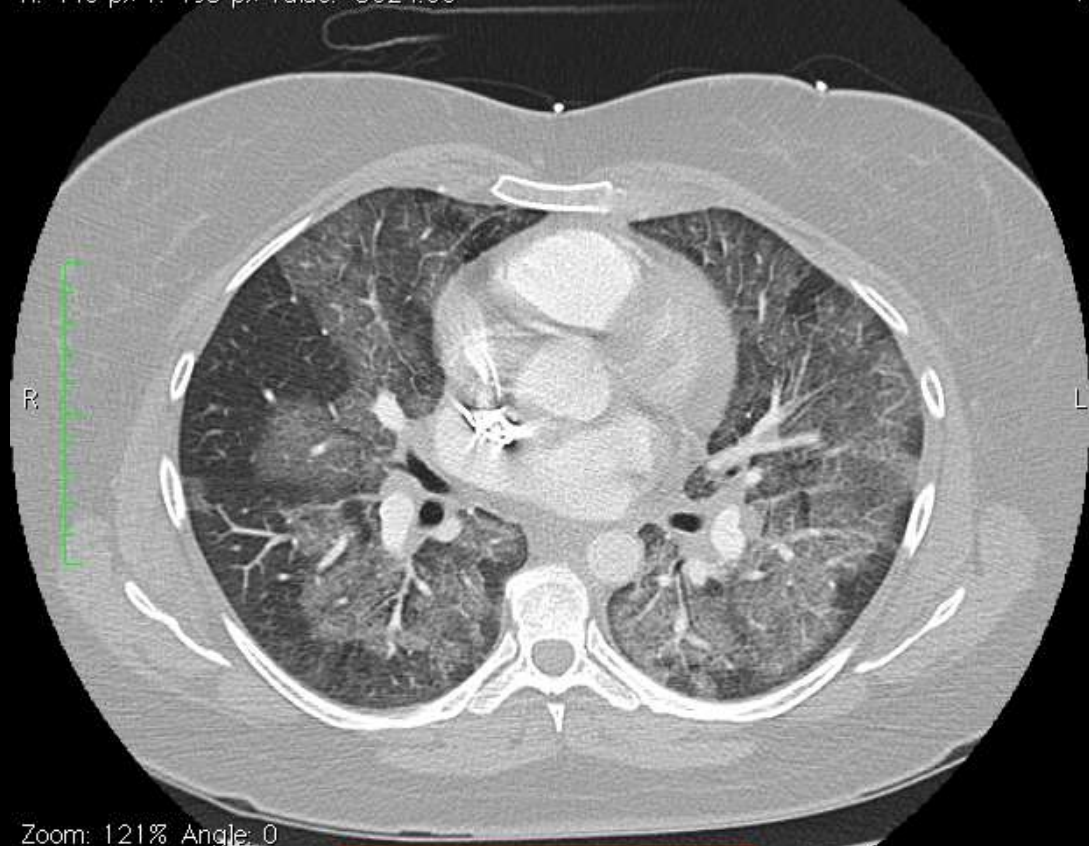


7/6/12 5:40:53 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 42/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -52.50 mm P

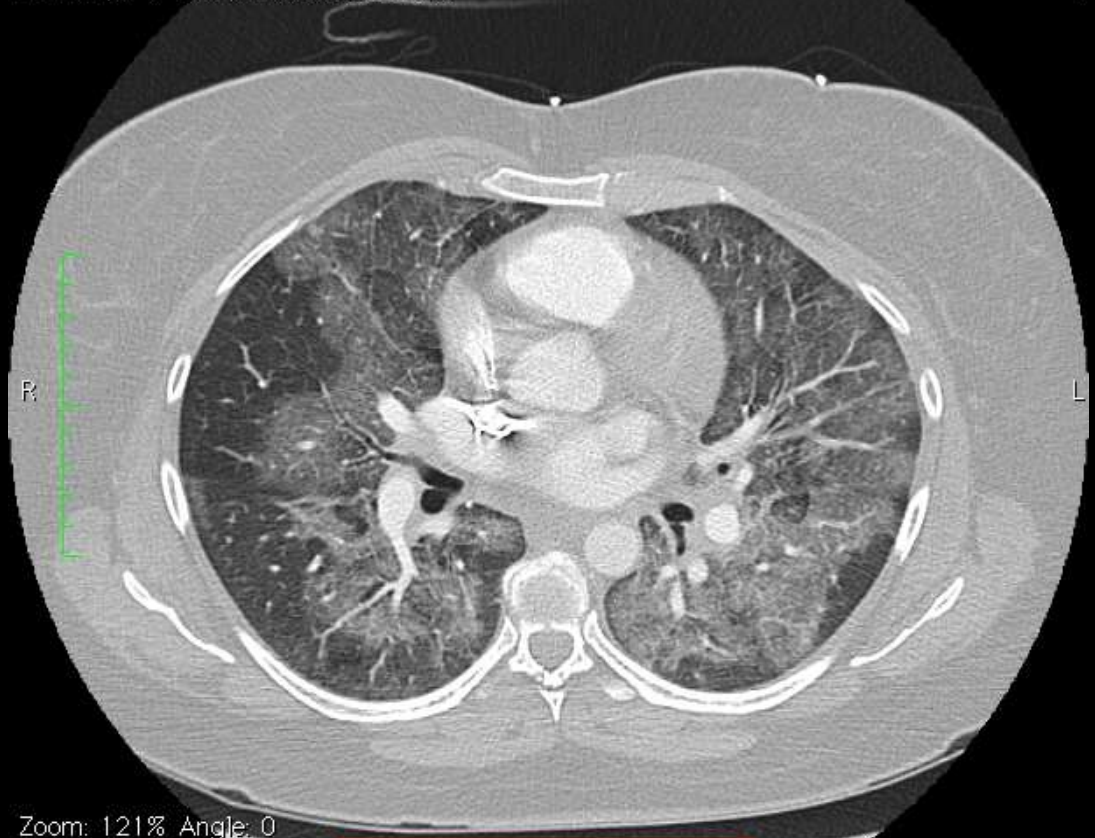
NOT FOR MEDICAL USAGE

7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 43/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -50.00 mm P

NOT FOR MEDICAL USAGE

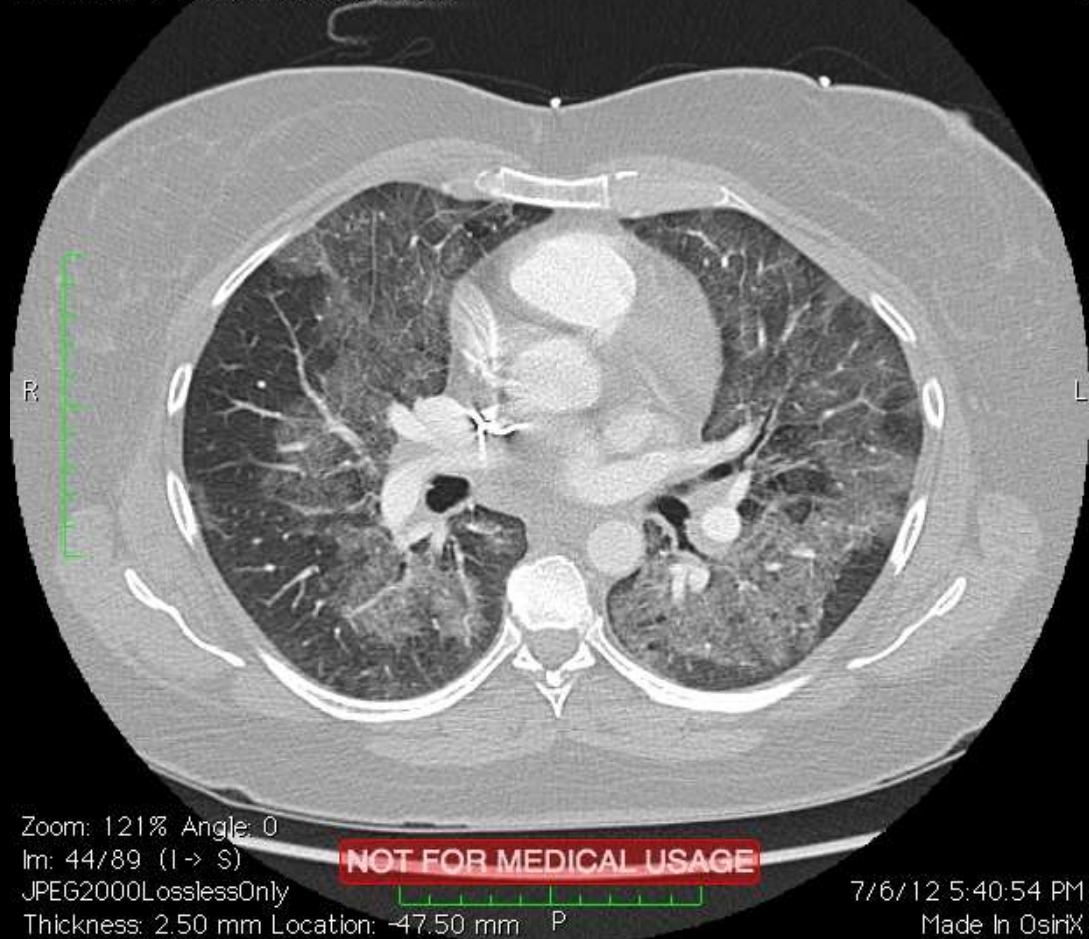


7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 44/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -47.50 mm P

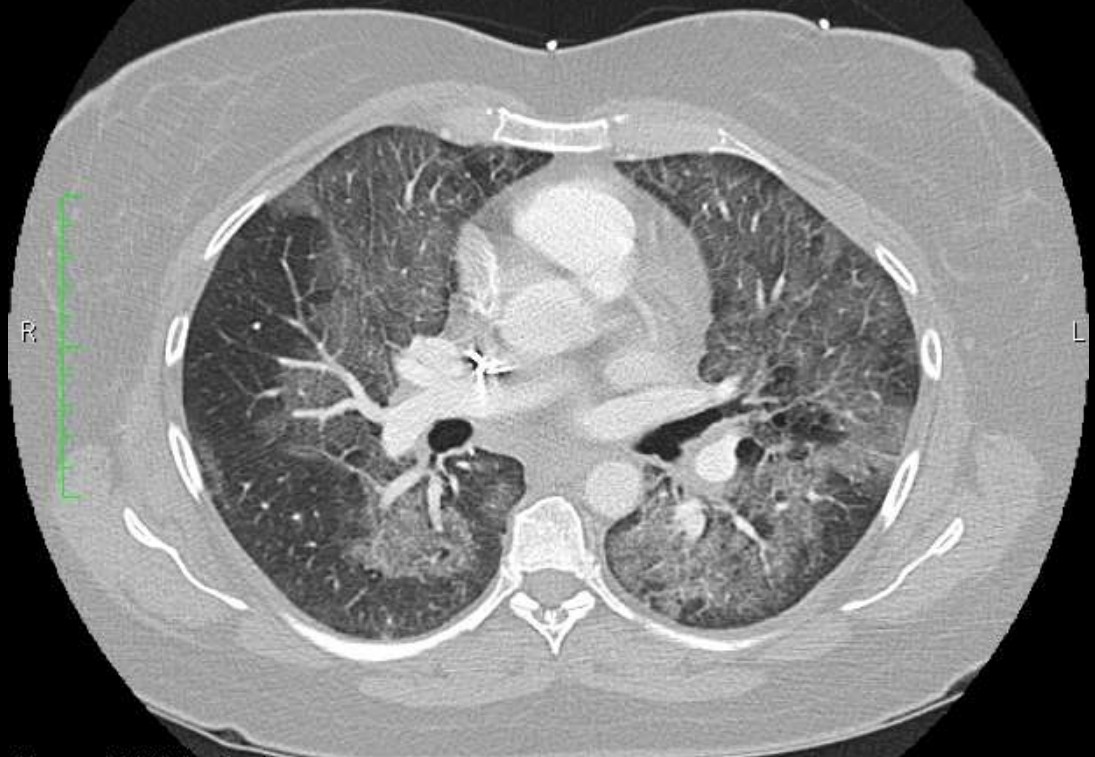
NOT FOR MEDICAL USAGE

7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 45/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -45.00 mm P

NOT FOR MEDICAL USAGE

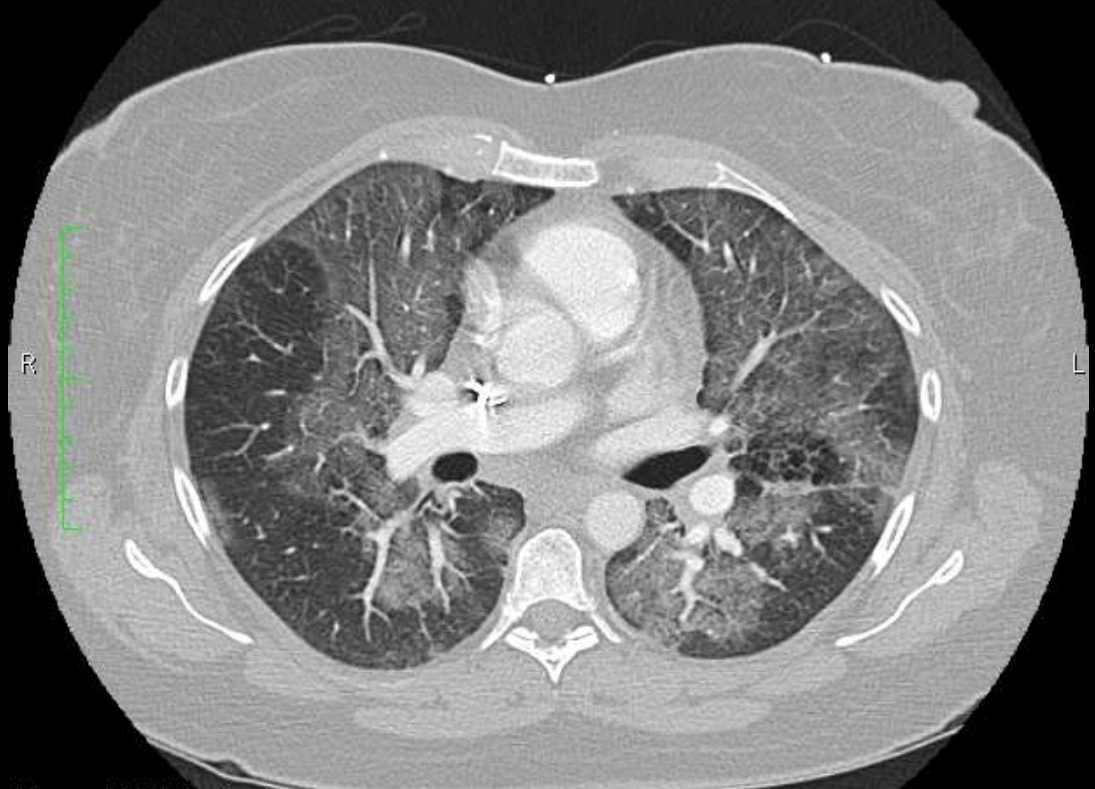


7/6/12 5:40:55 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 46/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -42.50 mm P

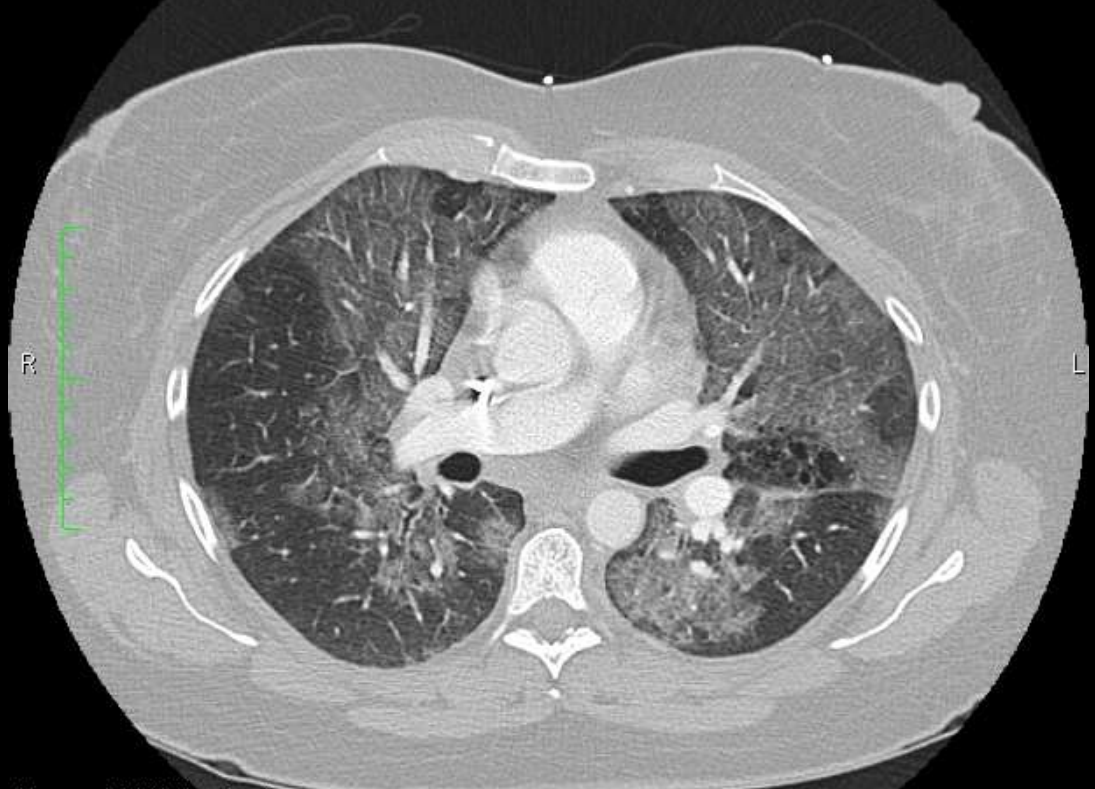
NOT FOR MEDICAL USAGE

7/6/12 5:40:55 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 47/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -40.00 mm P

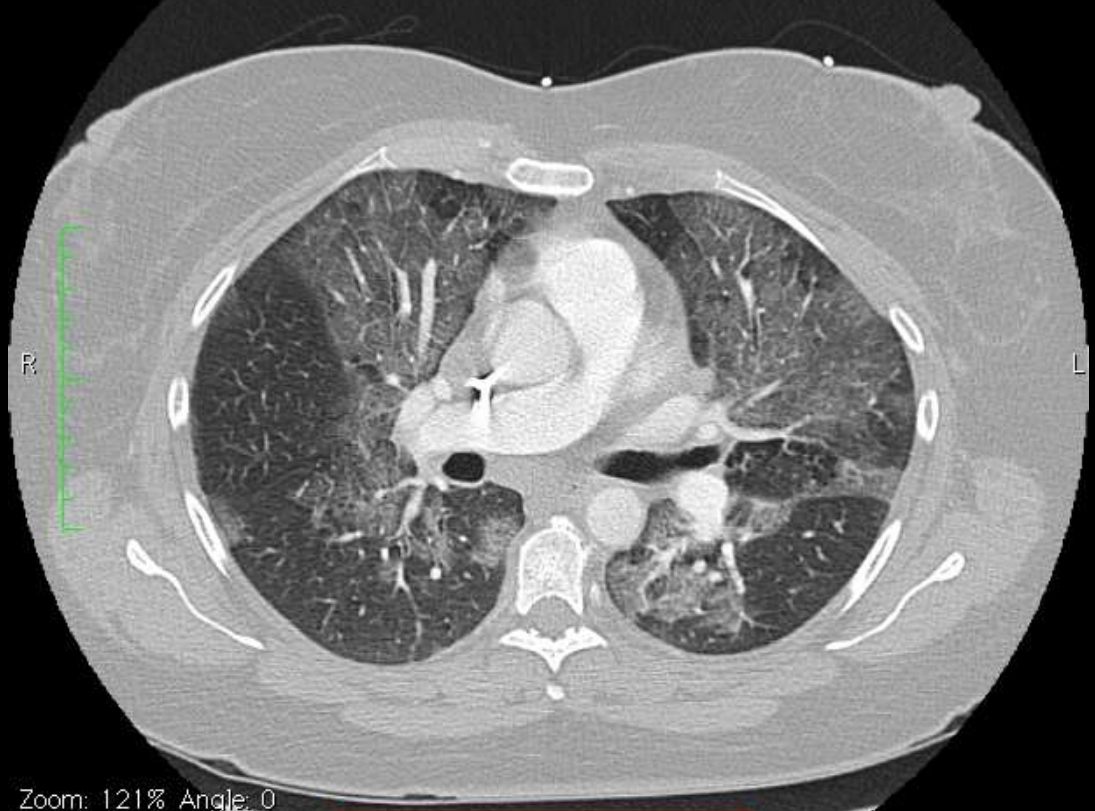
NOT FOR MEDICAL USAGE

7/6/12 5:40:55 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 48/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -37.50 mm P

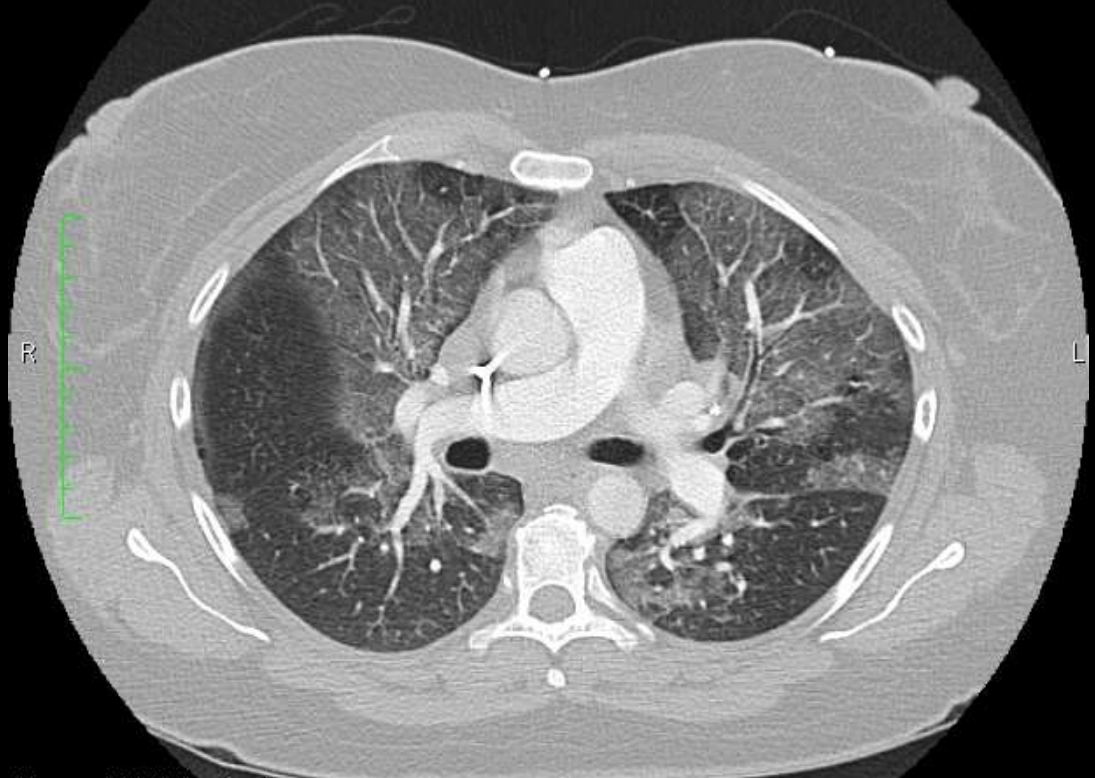
NOT FOR MEDICAL USAGE

7/6/12 5:40:55 PM
Made In Osirix



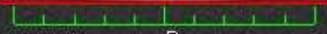
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 49/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -35.00 mm P

NOT FOR MEDICAL USAGE

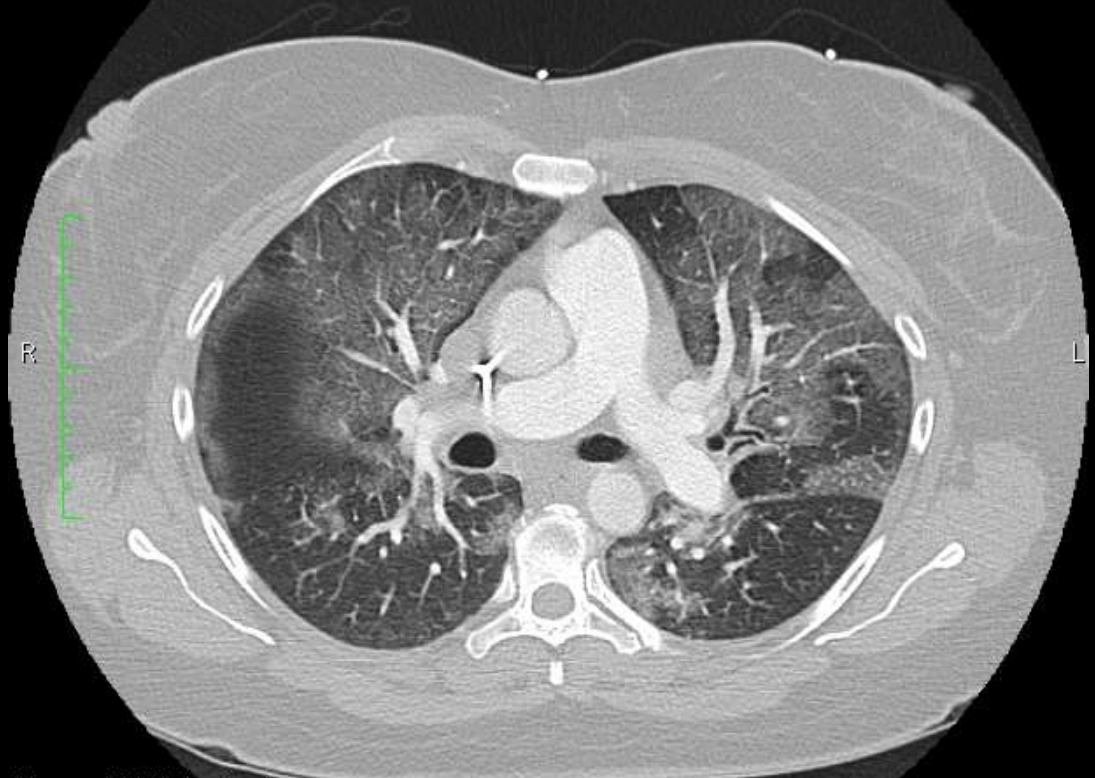


7/6/12 5:40:56 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 50/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -32.50 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:56 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 51/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -30.00 mm P

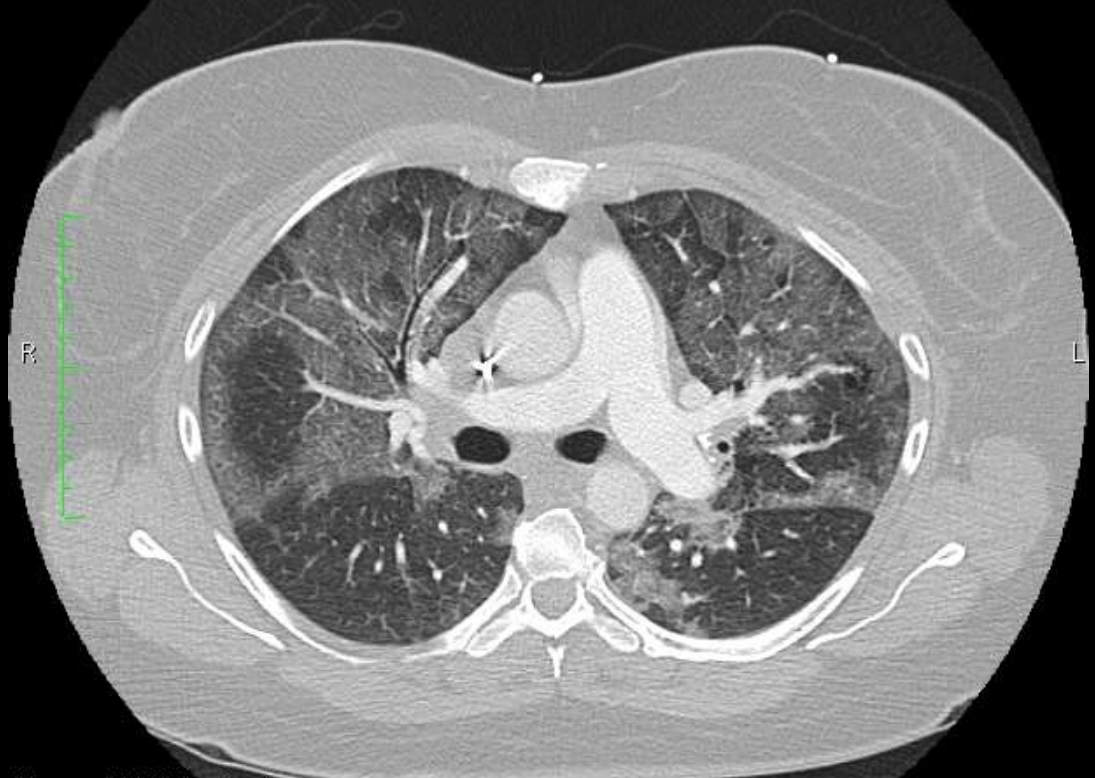
NOT FOR MEDICAL USAGE

7/6/12 5:40:56 PM
Made In Osirix



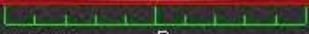
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 52/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -27.50 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:56 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 53/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -25.00 mm P

NOT FOR MEDICAL USAGE

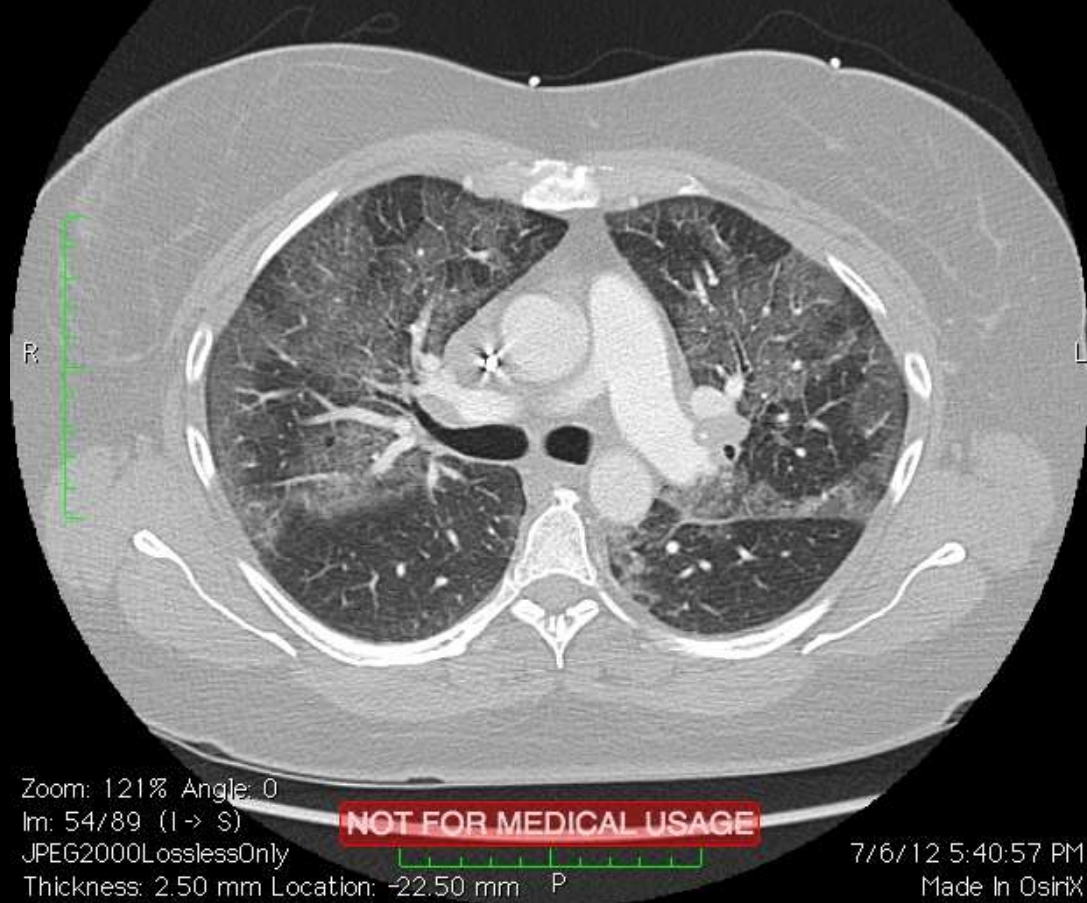


7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 54/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -22.50 mm

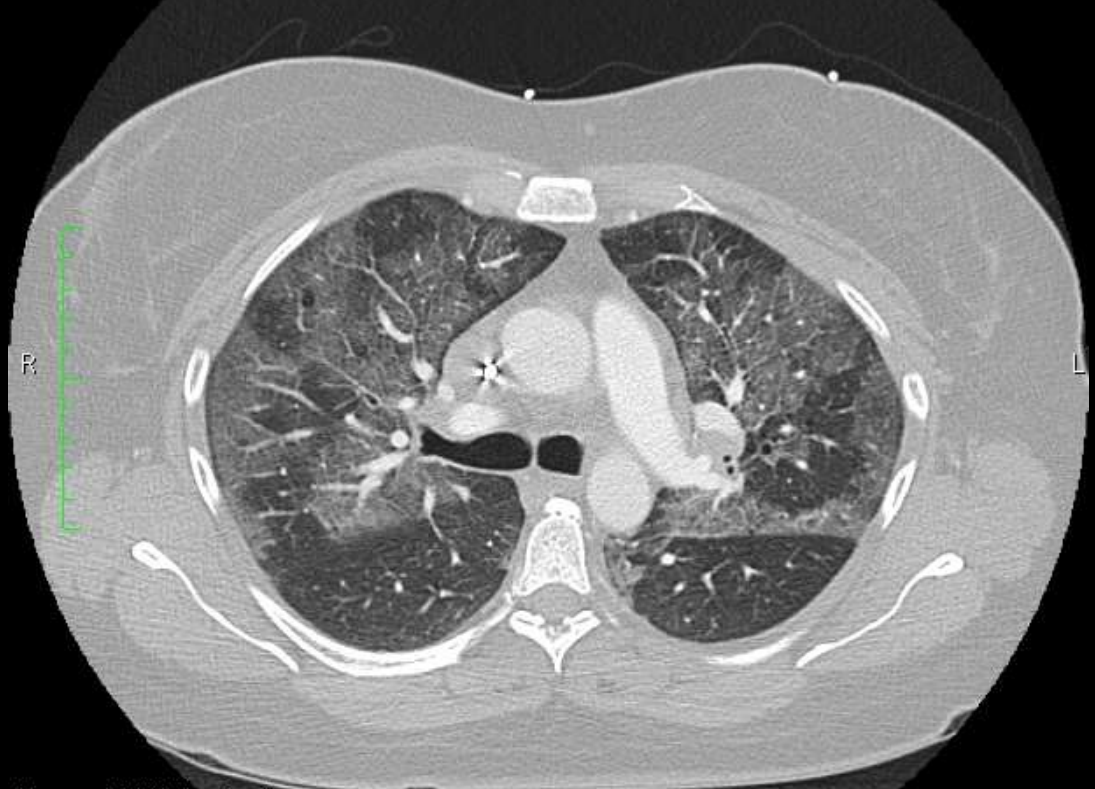
NOT FOR MEDICAL USAGE

7/6/12 5:40:57 PM
Made In OsirX



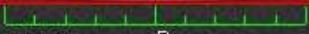
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 55/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -20.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 56/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -17.50 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 57/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -15.00 mm P

NOT FOR MEDICAL USAGE



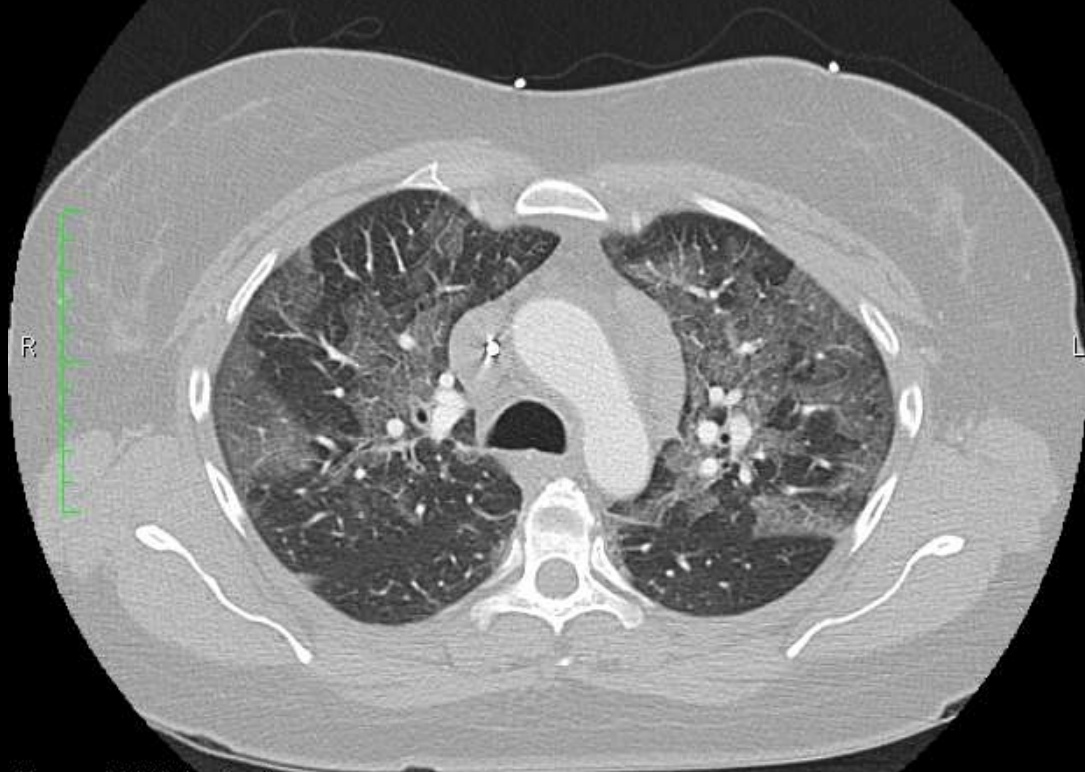
7/6/12 5:40:58 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A

1398057 (50 y , 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 58/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -12.50 mm P

NOT FOR MEDICAL USAGE

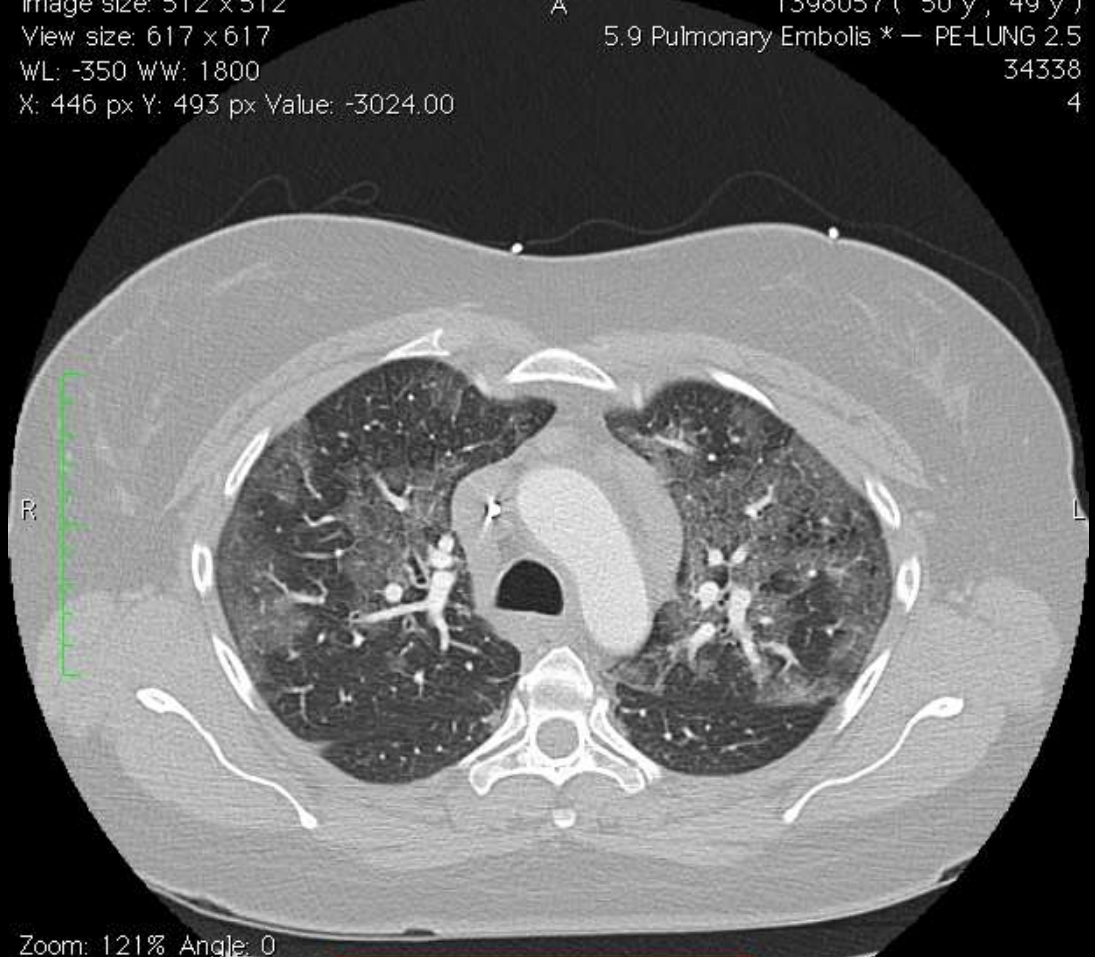


7/6/12 5:40:58 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 59/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -10.00 mm P

NOT FOR MEDICAL USAGE

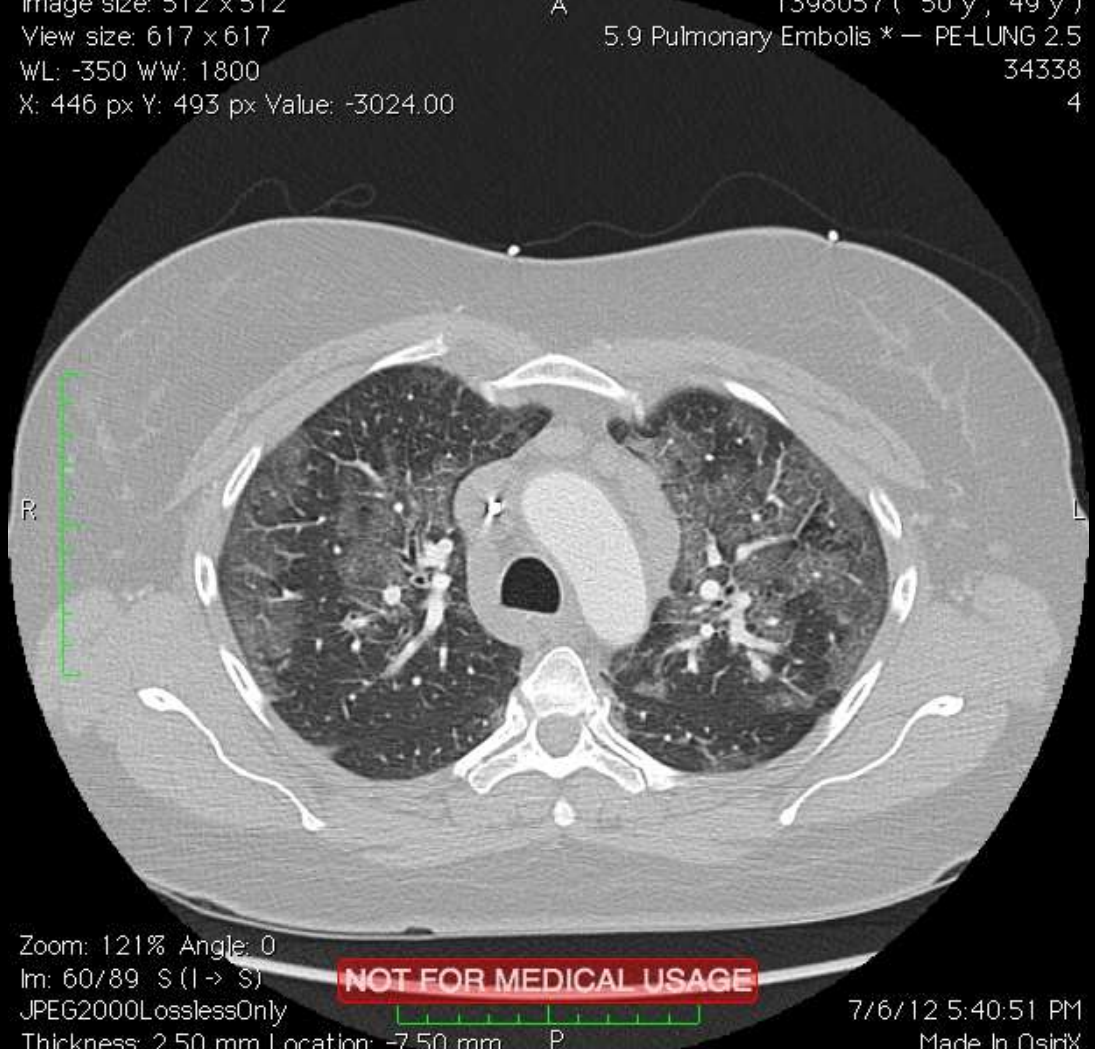


7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 60/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -7.50 mm

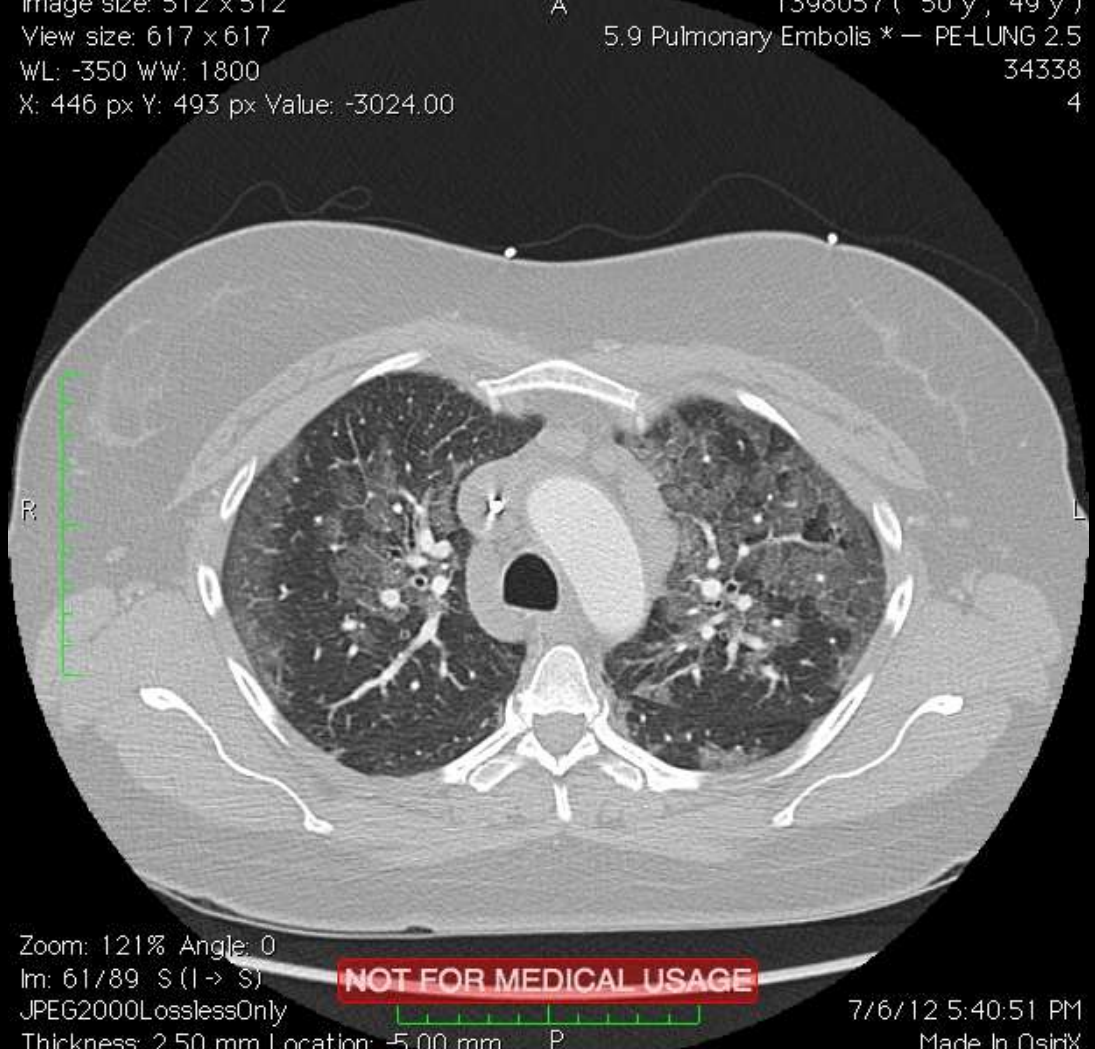
NOT FOR MEDICAL USAGE

7/6/12 5:40:51 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 61/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -5.00 mm

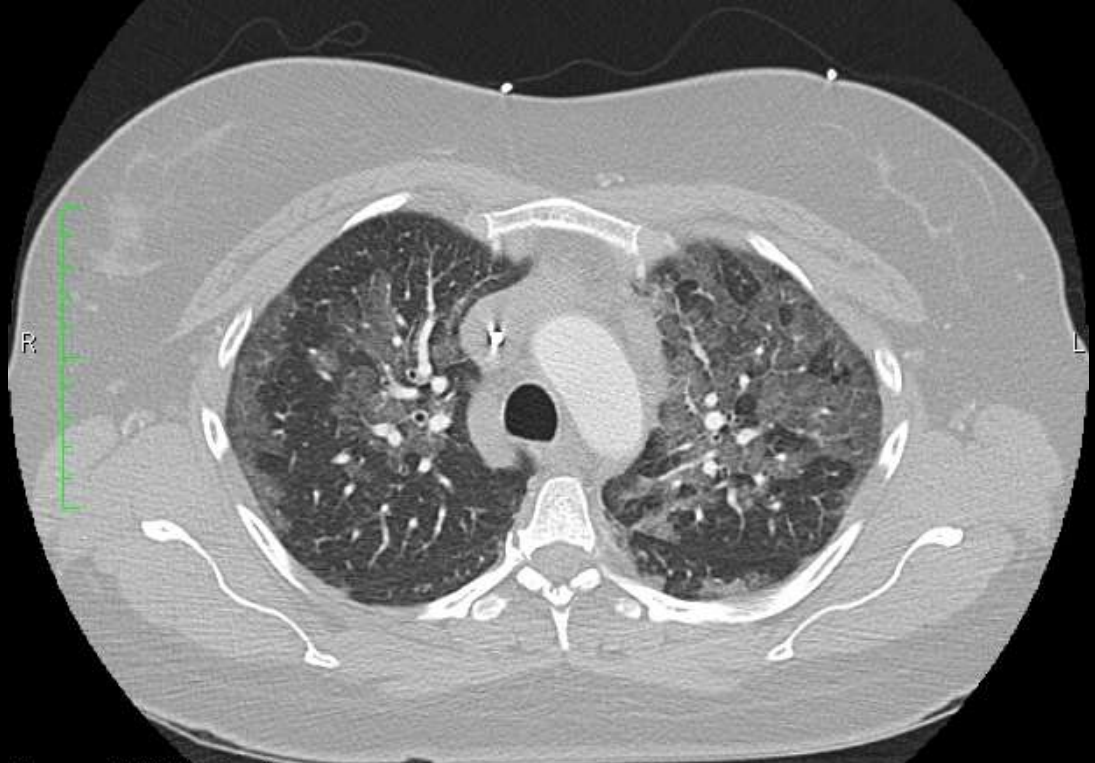
NOT FOR MEDICAL USAGE

7/6/12 5:40:51 PM
Made In Osirix



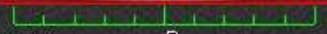
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 62/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -2.50 mm

NOT FOR MEDICAL USAGE

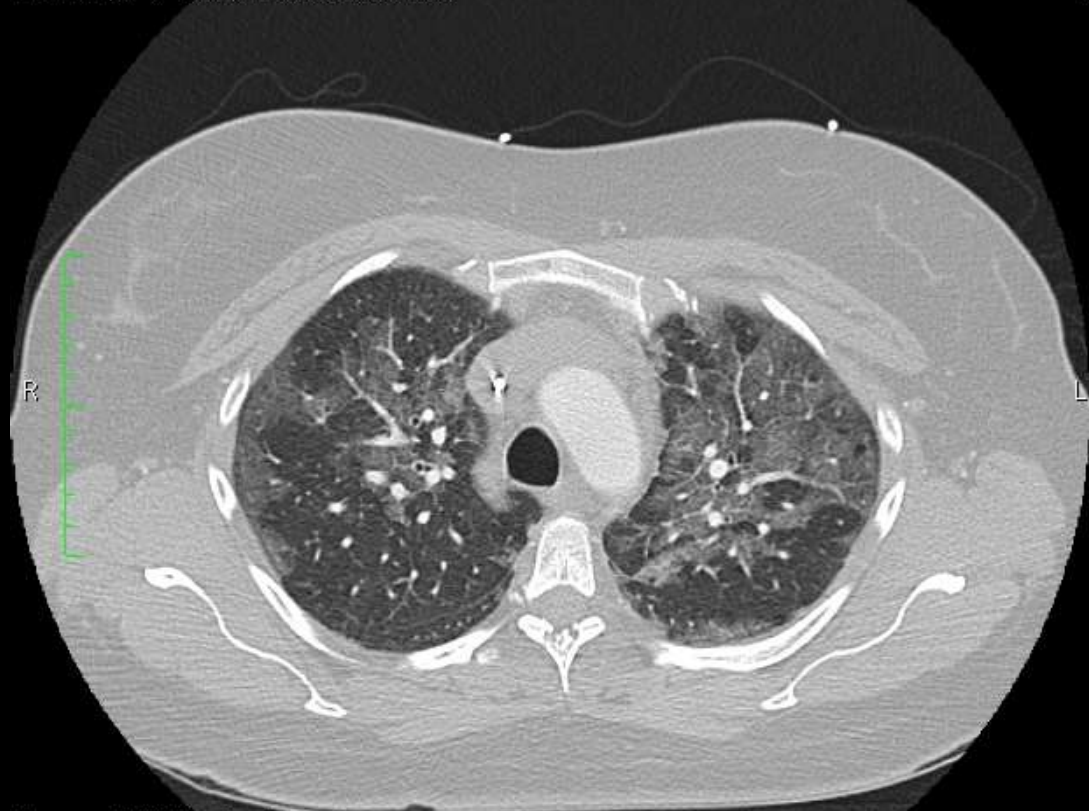


7/6/12 5:40:52 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 63/89 S (I -> S)
JPEG2000LosslessOnly
Position: FFS

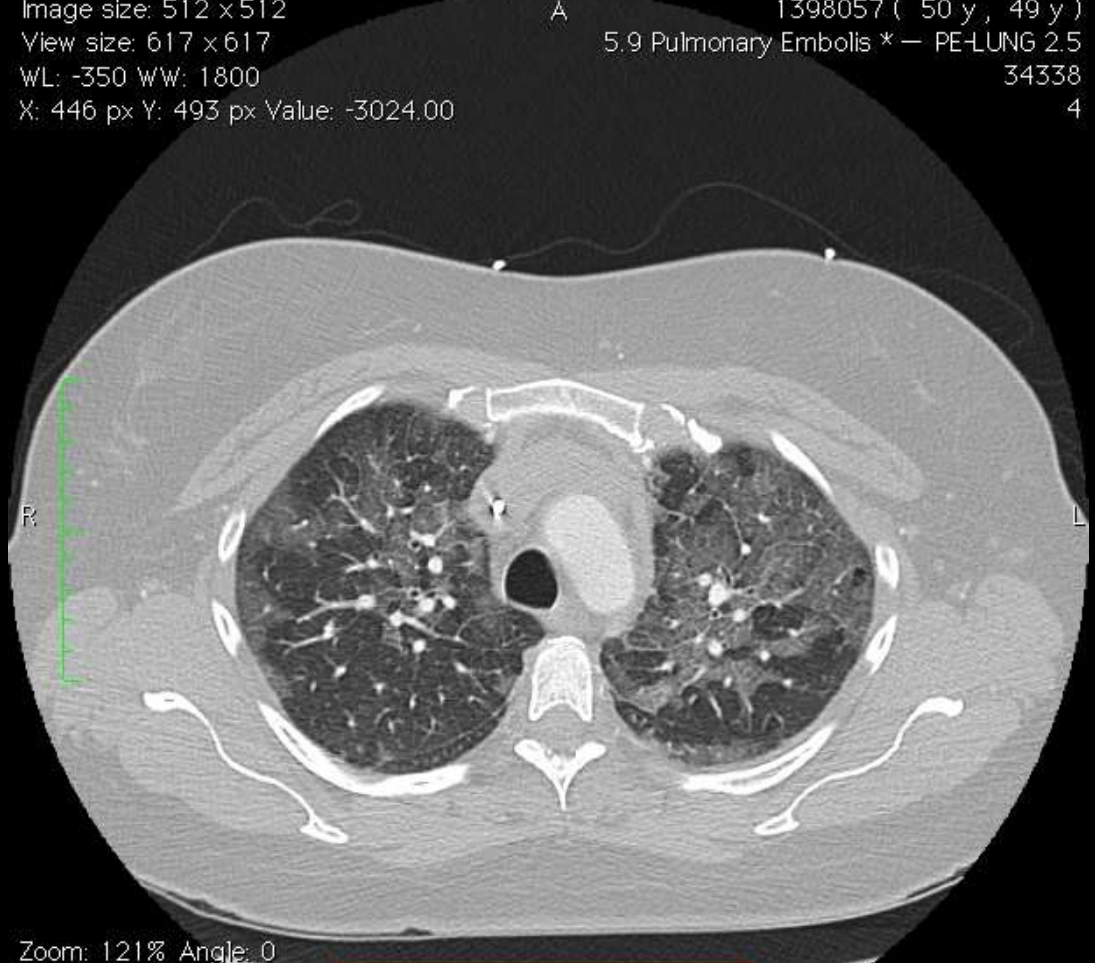
NOT FOR MEDICAL USAGE

7/6/12 5:40:52 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 64/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 2.50 mm

NOT FOR MEDICAL USAGE

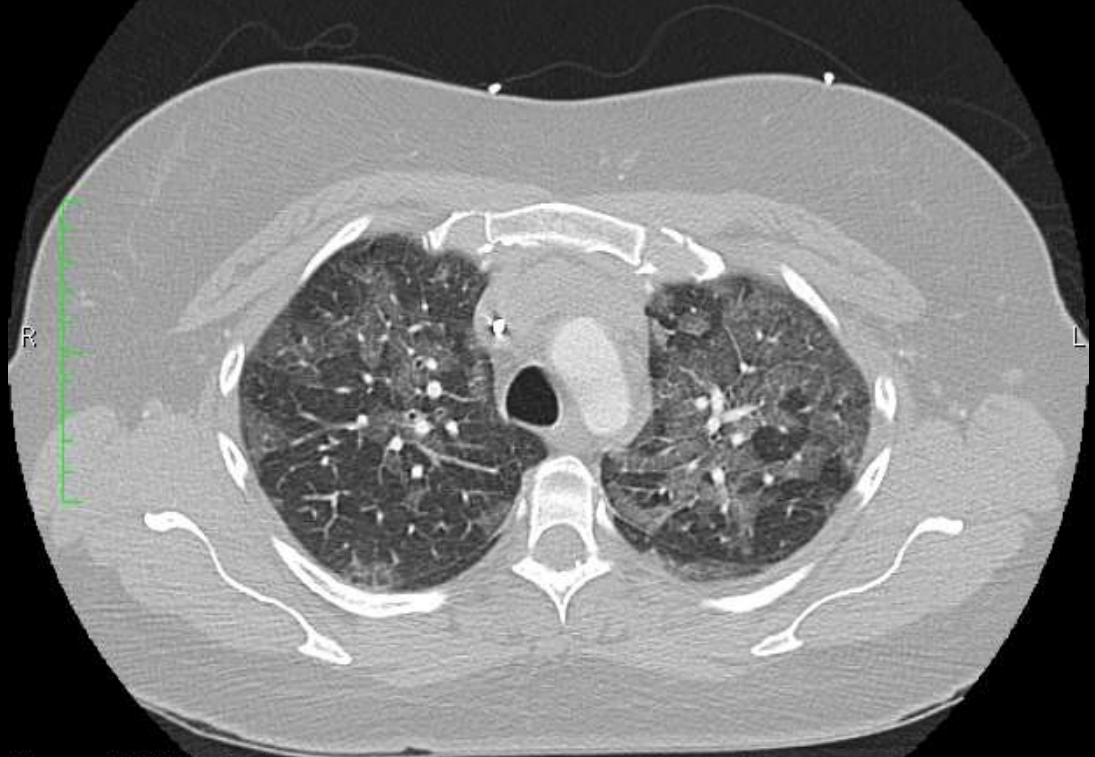


7/6/12 5:40:53 PM
Made In Osirix



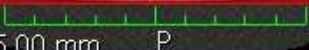
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 65/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 5.00 mm

NOT FOR MEDICAL USAGE

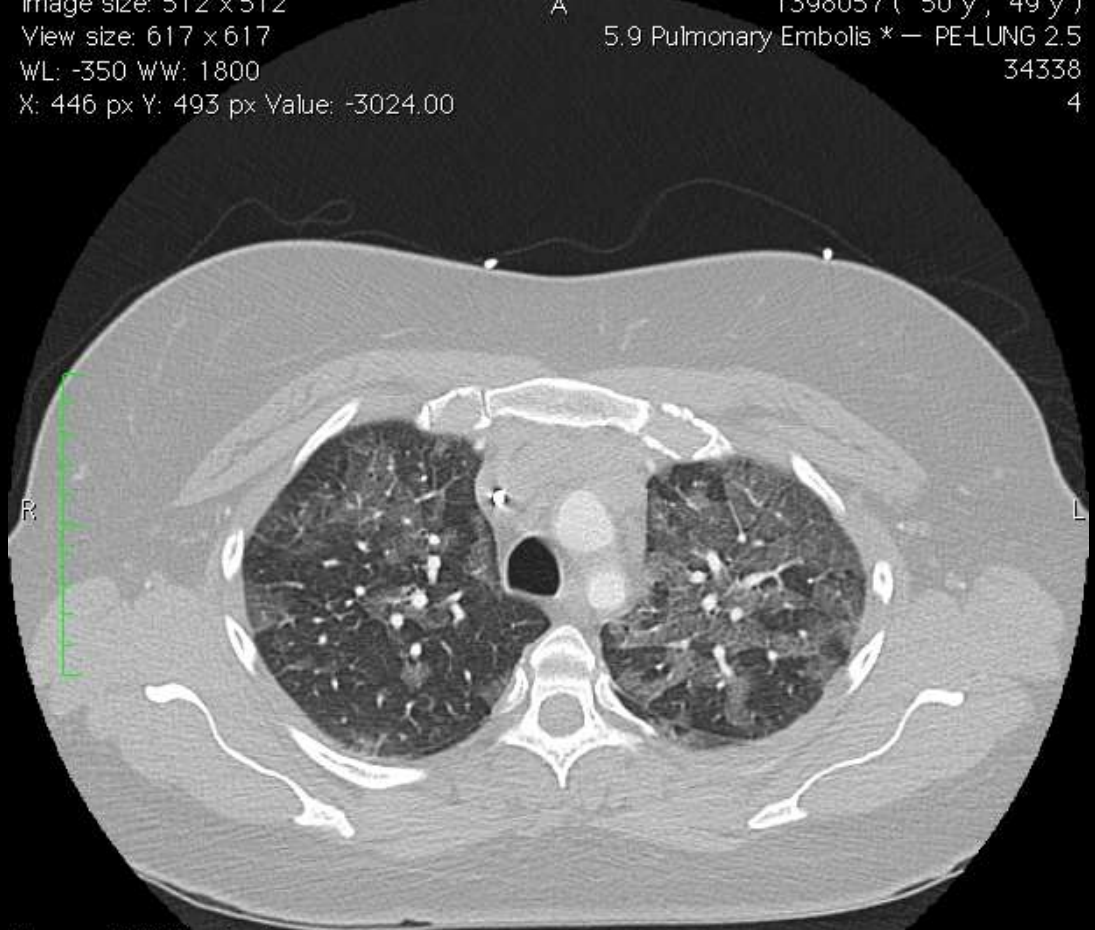


7/6/12 5:40:53 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 66/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 7.50 mm

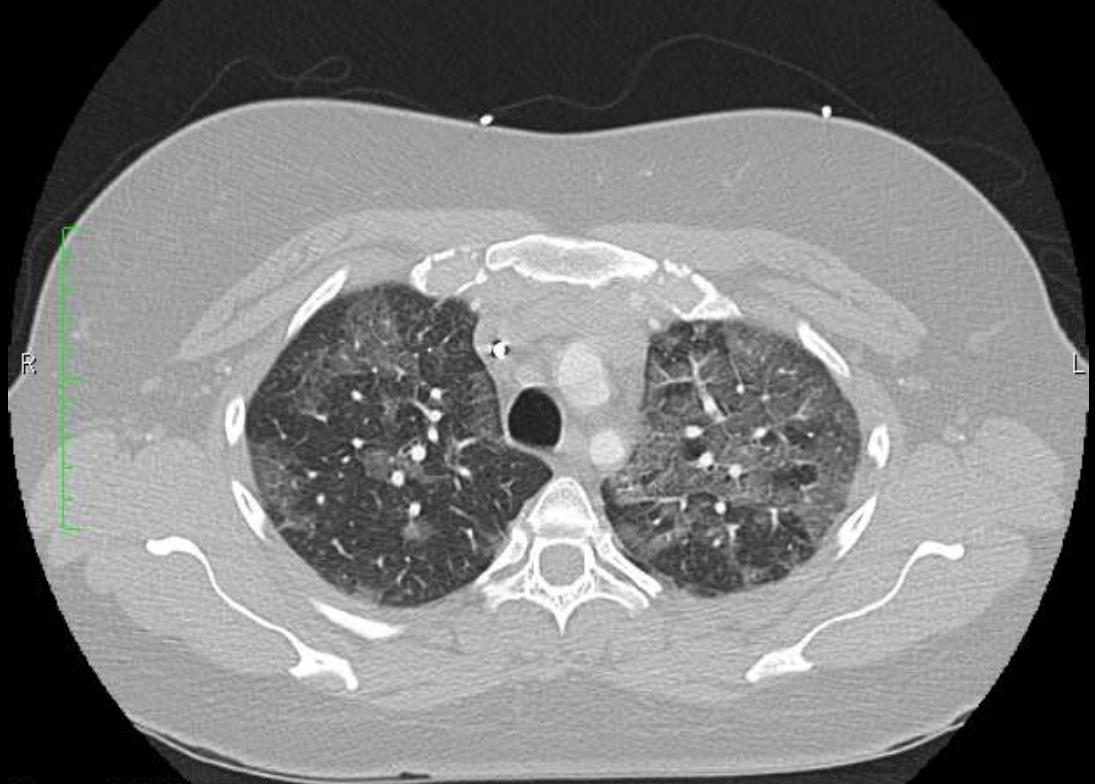
NOT FOR MEDICAL USAGE

7/6/12 5:40:53 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 67/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 10.00 mm P

NOT FOR MEDICAL USAGE

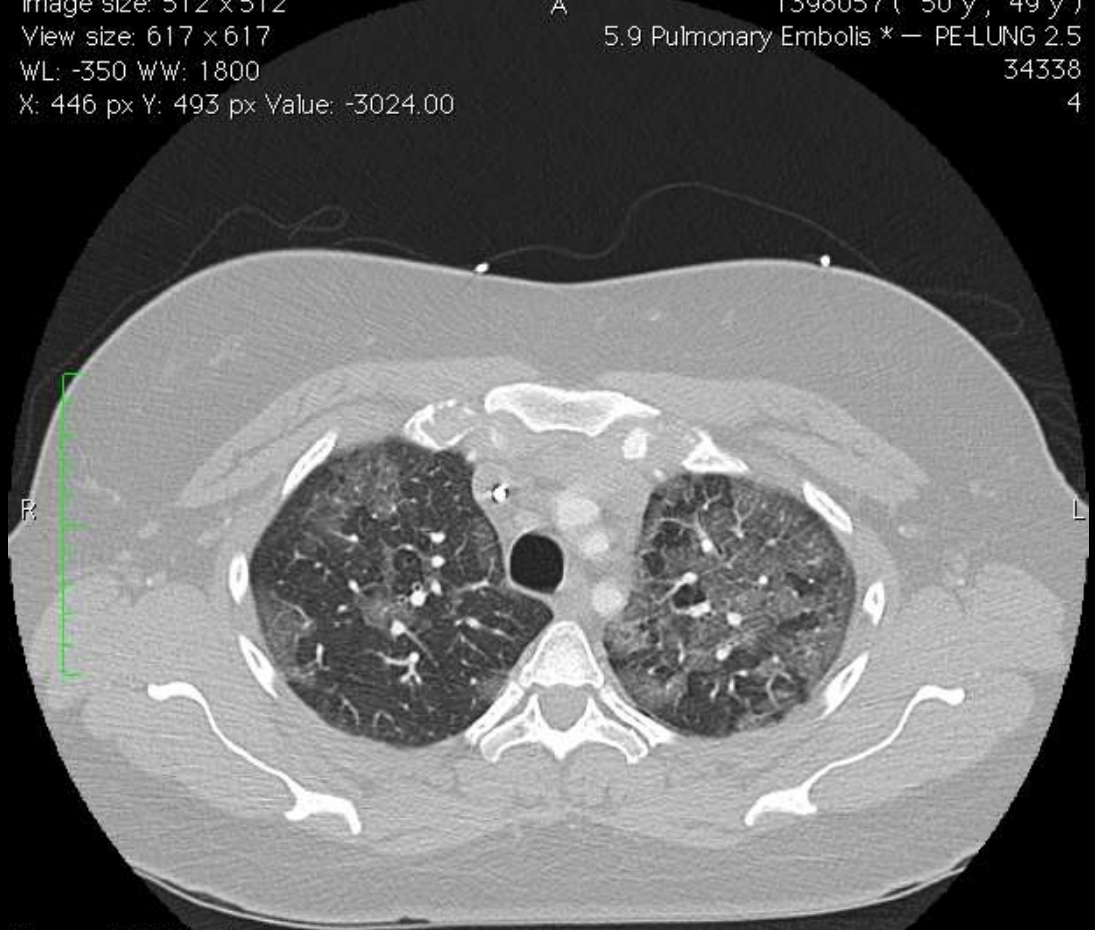


7/6/12 5:40:54 PM
Made In Osirix



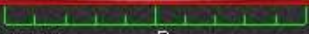
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 68/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 12.50 mm P

NOT FOR MEDICAL USAGE

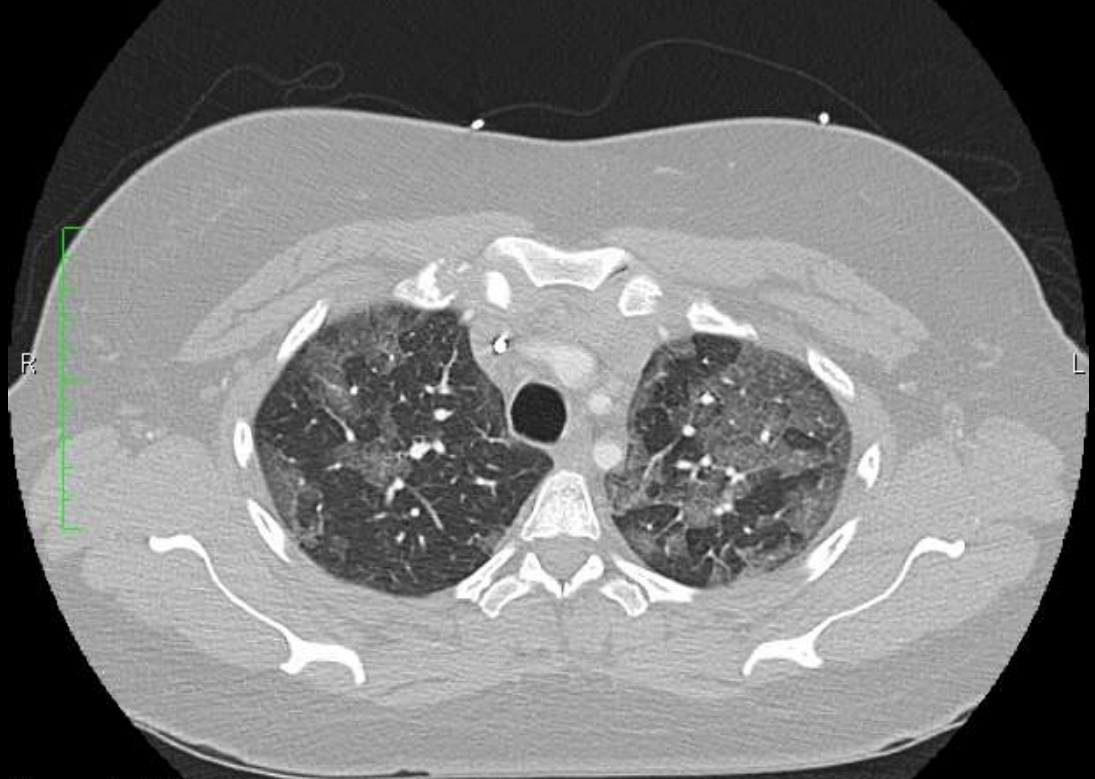


7/6/12 5:40:54 PM
Made In Osirix



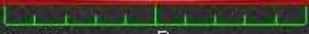
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 69/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 15.00 mm P

NOT FOR MEDICAL USAGE

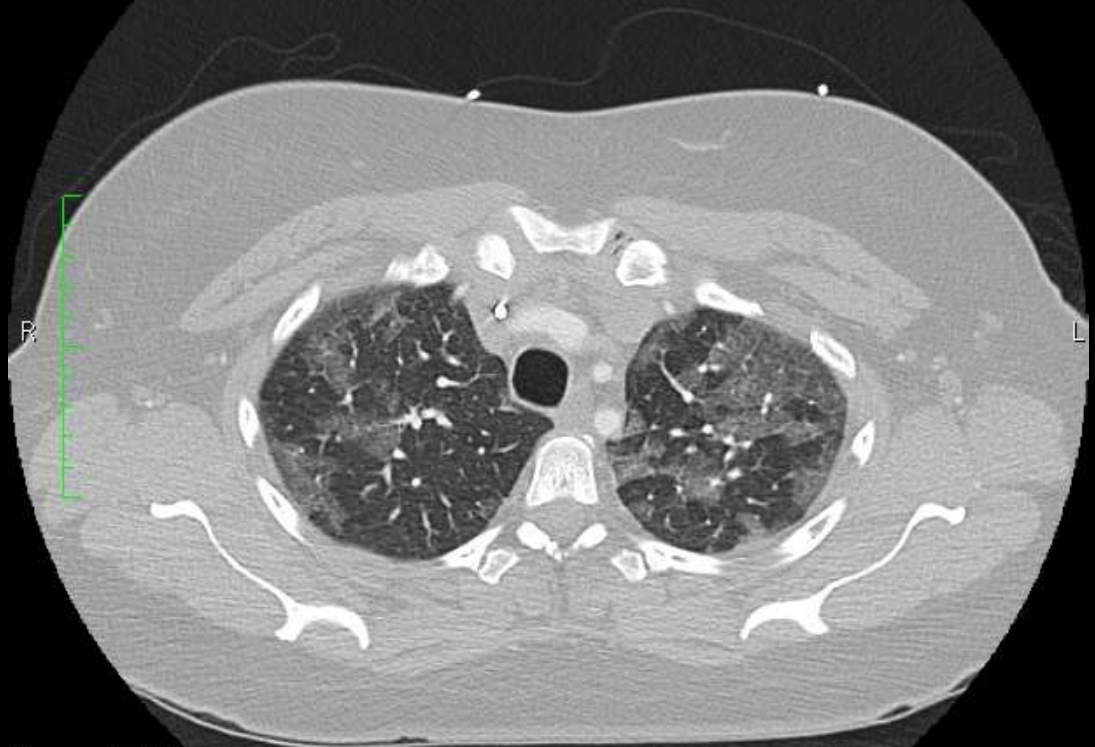


7/6/12 5:40:54 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 70/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 17.50 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:55 PM
Made In Osirix



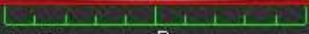
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 71/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 20.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:55 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 72/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 22.50 mm

NOT FOR MEDICAL USAGE

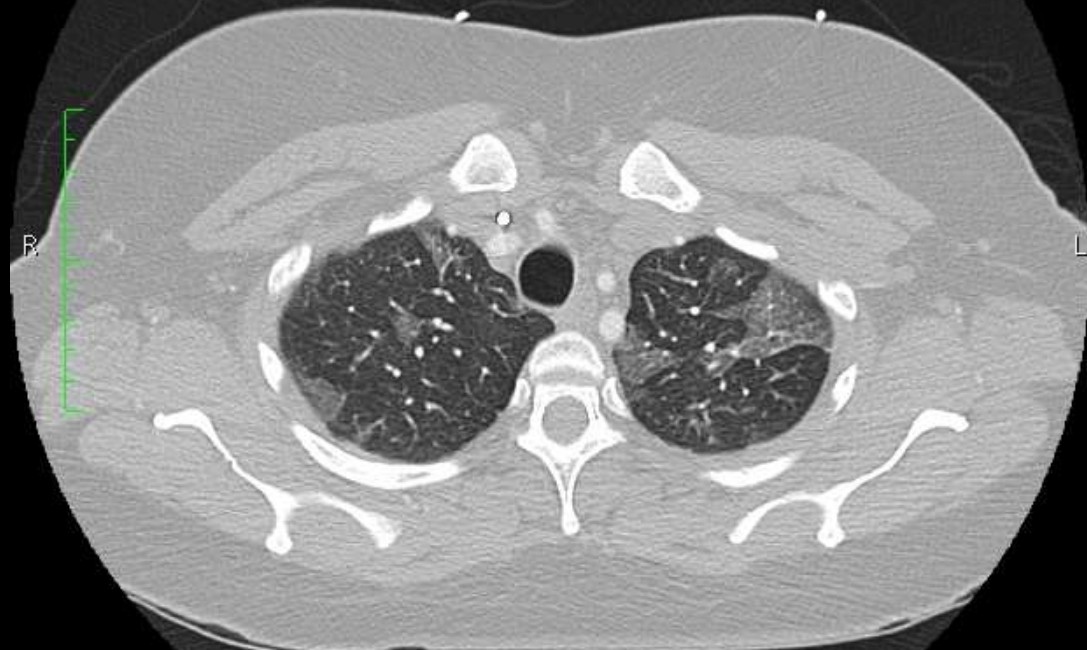


7/6/12 5:40:55 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 73/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 25.00 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:56 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 74/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 27.50 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:56 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 75/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 30.00 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:56 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 76/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 32.50 mm

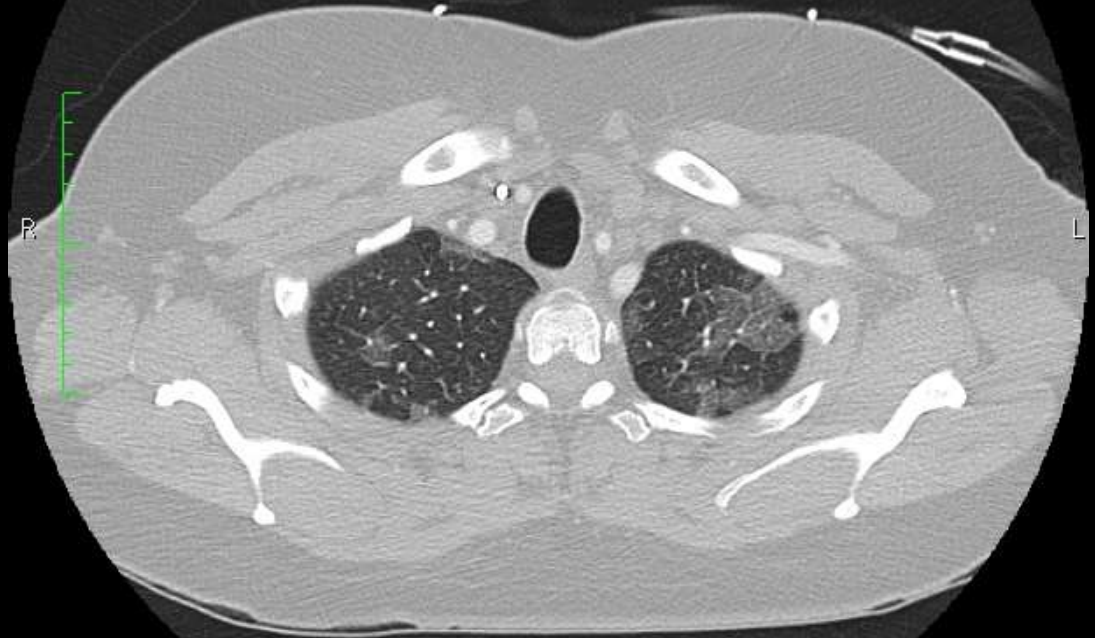
NOT FOR MEDICAL USAGE

7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 77/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 35.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 78/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 37.50 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 79/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 40.00 mm P

NOT FOR MEDICAL USAGE

7/6/12 5:40:57 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 80/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 42.50 mm

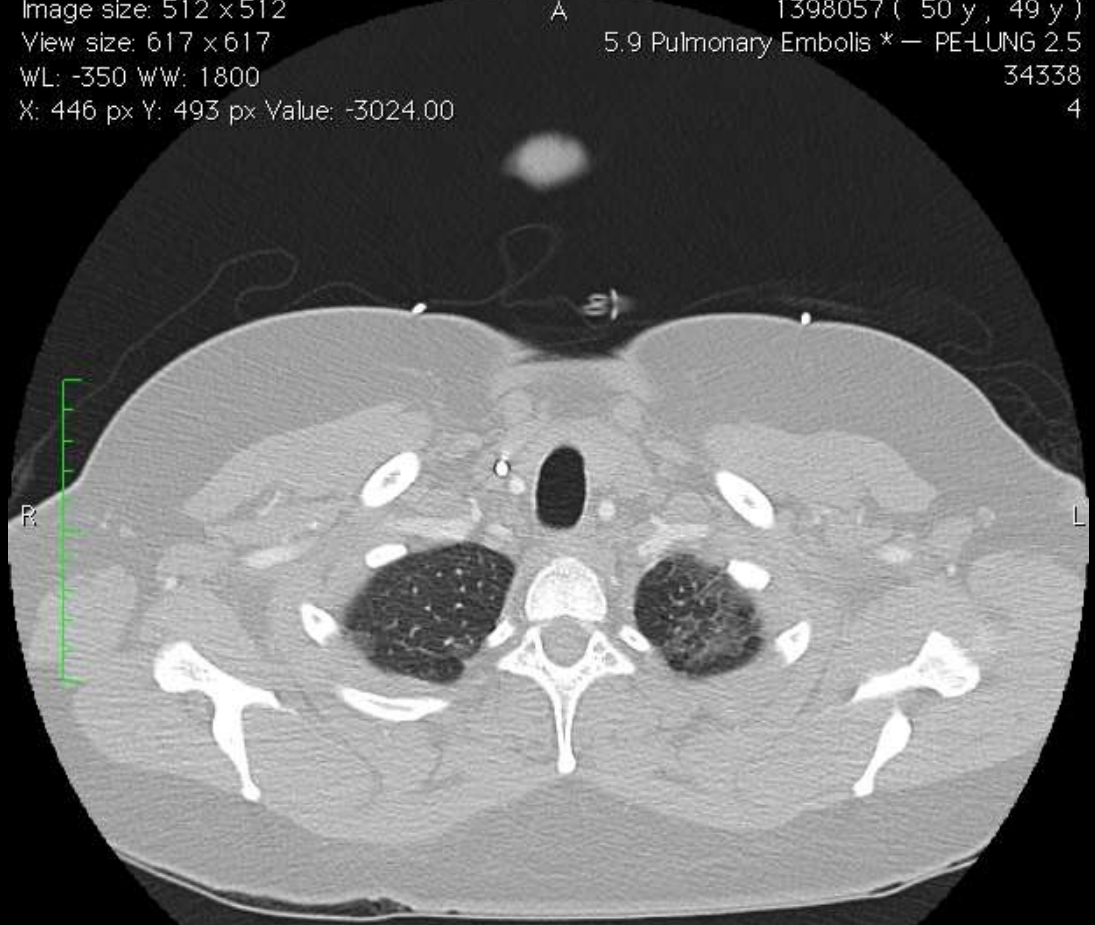
NOT FOR MEDICAL USAGE

7/6/12 5:40:58 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 81/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 45.00 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:58 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A 1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 82/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 47.50 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:58 PM
Made In OsirX



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

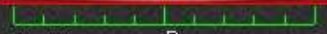
A

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 83/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 50.00 mm

NOT FOR MEDICAL USAGE



7/6/12 5:40:58 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

A

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 84/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 52.50 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:59 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 85/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 55.00 mm

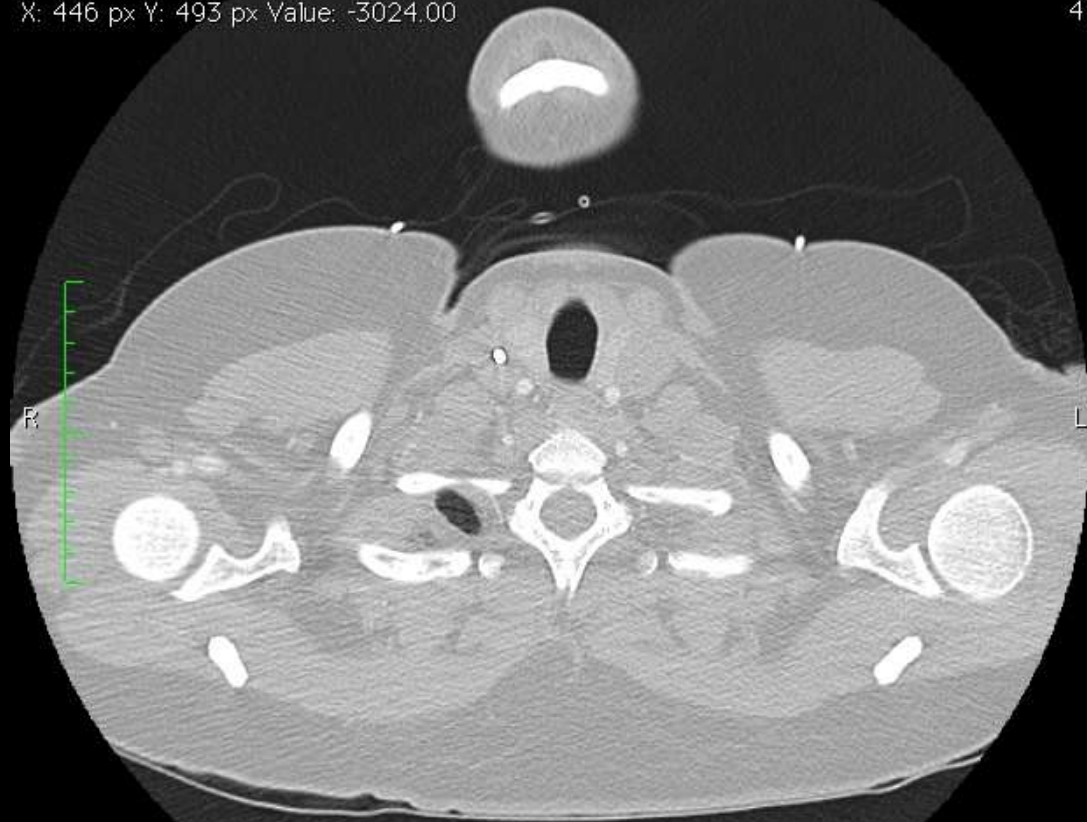
NOT FOR MEDICAL USAGE

7/6/12 5:40:59 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 86/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 57.50 mm

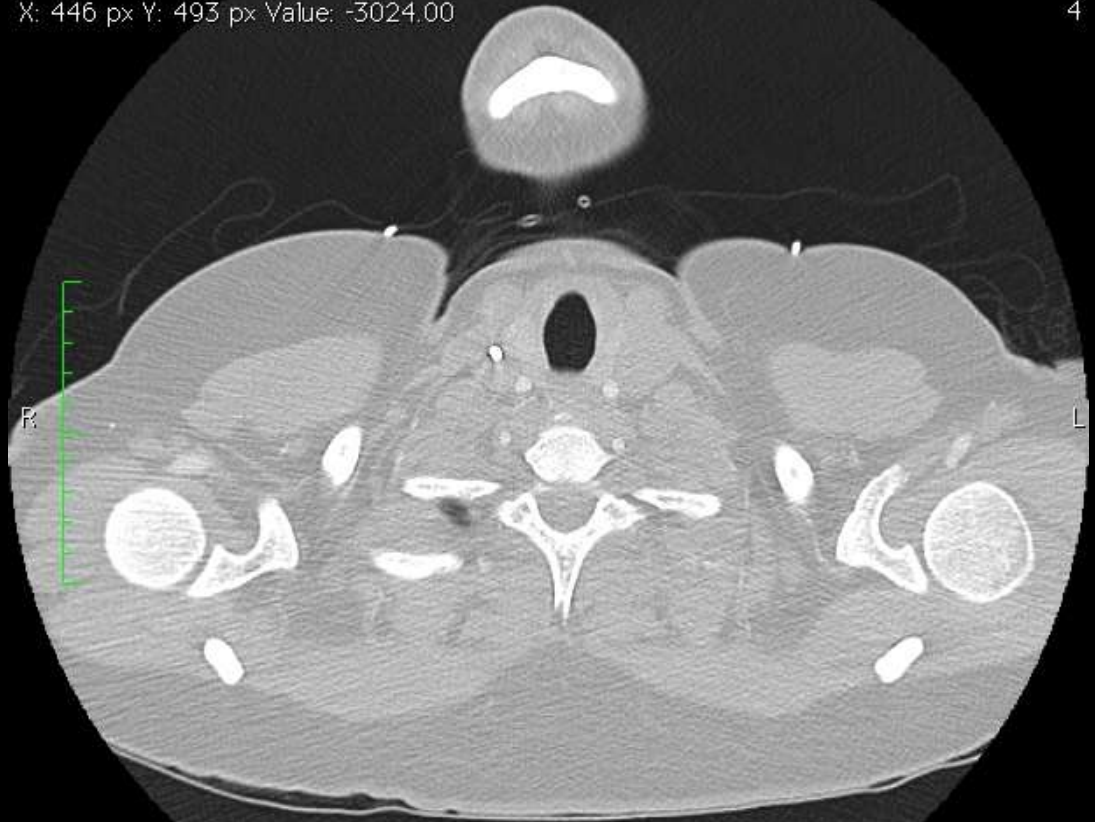
NOT FOR MEDICAL USAGE

7/6/12 5:40:59 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 87/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 60.00 mm

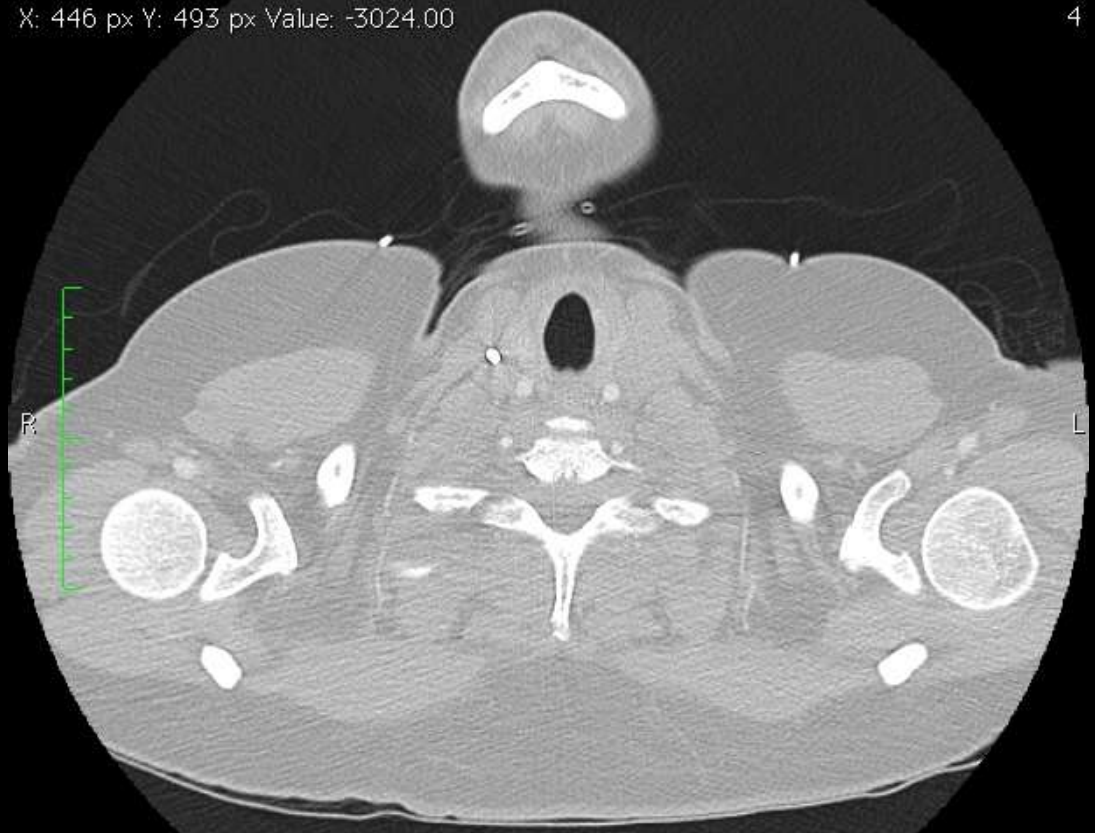
NOT FOR MEDICAL USAGE

7/6/12 5:40:59 PM
Made In Osirix



Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 88/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 62.50 mm

NOT FOR MEDICAL USAGE

7/6/12 5:40:59 PM
Made In Osirix



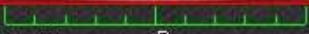
Image size: 512 x 512
View size: 617 x 617
WL: -350 WW: 1800
X: 446 px Y: 493 px Value: -3024.00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
34338
4



Zoom: 121% Angle: 0
In: 89/89 S (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: 65.00 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:41:00 PM
Made In Osirix



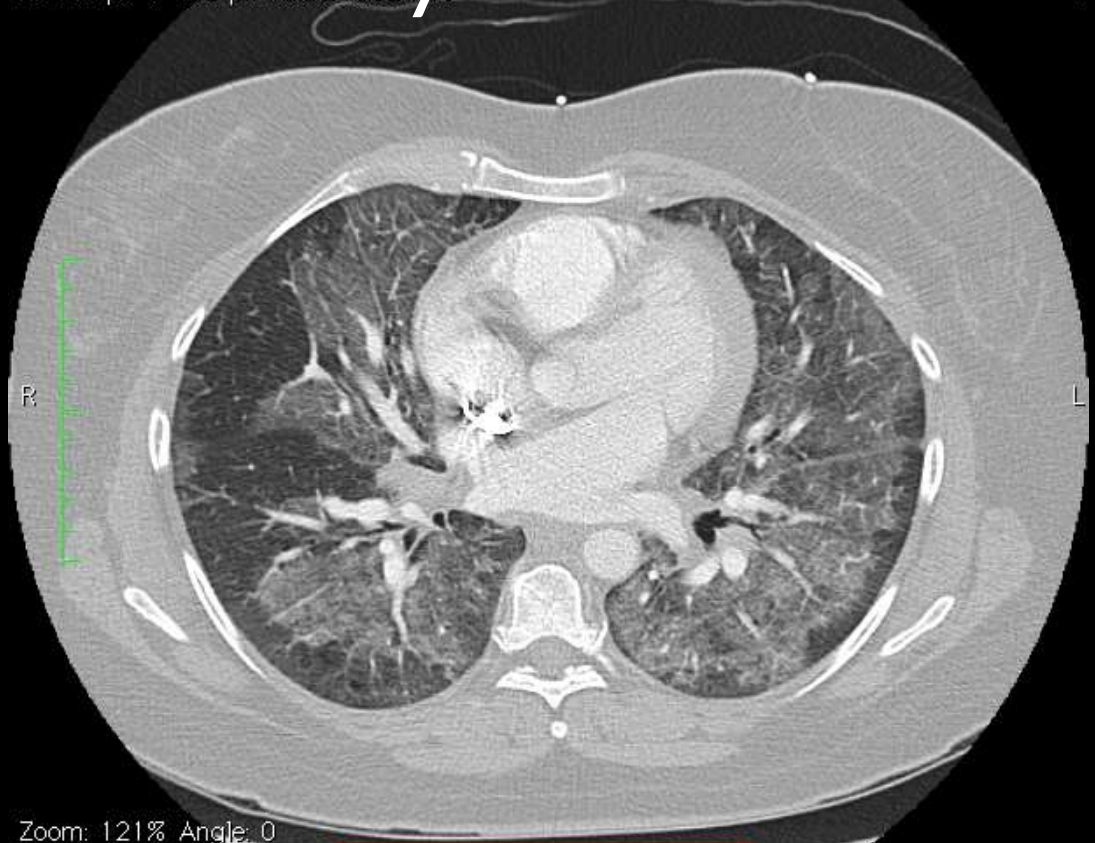
Some Definitions...

- Ground-glass opacification: Descriptive term referring to an area of increased attenuation in the lung on CT with **preserved bronchial and vascular markings.**
- Nonspecific sign
 - Infections, chronic interstitial disease, and acute alveolar filling process

Image size: 512 x 512
View size: 617 x 617
WL: -15, WW: 1800
X: 446 px, Y: 495 px, Z: 3024, 00

1398057 (50 y, 49 y)
5.9 Pulmonary Embolis * — PE-LUNG 2.5
3/3/8 4

What do you think now?



Zoom: 121% Angle: 0
In: 38/89 (I -> S)
JPEG2000LosslessOnly
Thickness: 2.50 mm Location: -62.50 mm P

NOT FOR MEDICAL USAGE



7/6/12 5:40:52 PM
Made In Osirix



Pattern Recognition

- Acute: Imaging less helpful - overlapping and non-specific features
- Diffuse: ARDS, diffuse alveolar hemorrhage, pulmonary alveolar proteinosis, pulmonary edema
- Subpleural sparing: NSIP, diffuse alveolar hemorrhage, inhalational lung injury, PJP, pulmonary alveolar proteinosis

Clinical Course

- Intubated for worsening hypoxemia
- BAL was bland
- Cultures negative

Additional work history obtained from the family

9-D-9 exposure...

odorx[®]

% By Volume

2-propanol

30-60%

Dipropylene Glycol

10-30%

Octylphenoxypolyethoxyethanol

15-40%



MSDS...



Material Safety Data Sheet

HMS

Health Hazard	1
Fire Hazard	3
Reactivity	0
Personal Protection	c

NFPA



I. Chemical Product & Company Data

Product Name: **OdorX 9-D-9™**

Revision Date: February 8, 2012

8. Exposure Controls & Personal Protection

Personal Protective Equipment		
Gloves Natural Rubber	Respirator NIOSH TC-23C organic vapor respirator or equivalent	Eye Goggles or full face respirator
Footwear n. ap.	Clothing Coveralls or equivalent	Other n. ap.

Also known as...



Toxicity of Octoxynols...

TOXICOLOGY AND APPLIED PHARMACOLOGY 63, 53-61 (1982)

Acute Toxicity of Polyethylene Glycol *p*-Isooctylphenol Ether in Syrian Hamsters Exposed by Inhalation or Bronchopulmonary Lavage¹

E. G. DAMON, W. H. HALLIWELL,² T. R. HENDERSON, B. V. MOKLER,
AND R. K. JONES



- Hamsters died within 24 hours post-exposure
- Alveolar septa necrosed
- Disruption of the capillaries with alveolar hemorrhage

- T
- E
- P
- n



Case 2: Chief Complaint

62-year-old woman with 3
weeks of dyspnea and
cough

History of Present Illness

- Three weeks ago, the patient developed a nonproductive cough.
- Accompanied by progressive dyspnea, previously with exercise, now at rest
- She has noted intermittent fevers, chills, and myalgias.
- Has noted overwhelming fatigue and malaise.

Past Medical History

PMH

- Hypothyroidism

PSH

None

Medications

- Levothyroxine
100mcg PO Daily

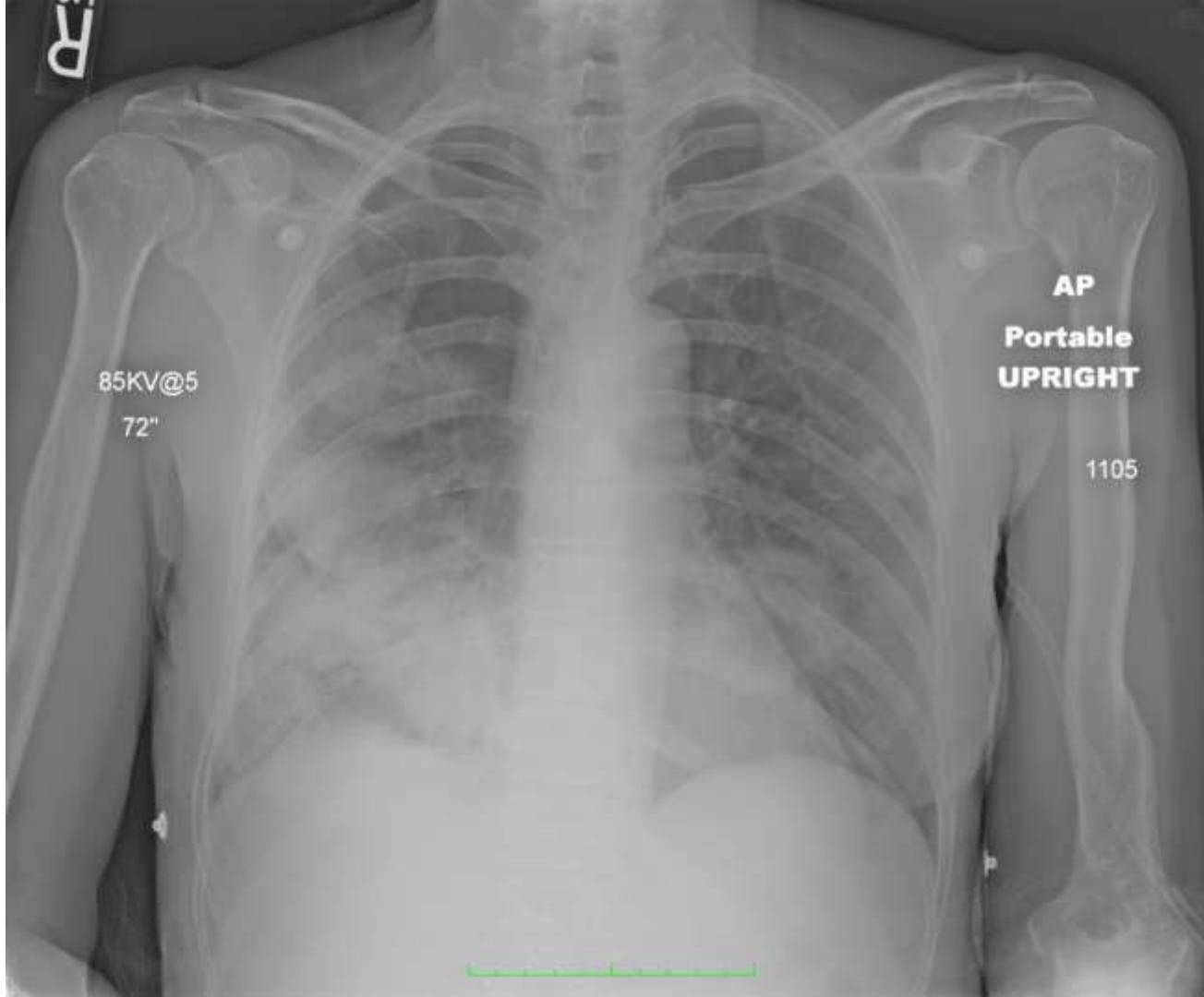
Social History

SH: Resides in Breckenridge, Colorado. Retired veterinary pathologist, now teaches high school biology. In the last month did a long cycling trip through the Rockies, complained of dry lips and nose throughout the trip.



Physical Exam

- VS: T = 98.6, BP = 105/58, P = 70, RR = 16, **95% on 2L**
- Gen: No acute distress.
- HEENT: Bilateral scleral injection. No LAD.
- CVS: S1, S2, RRR. No murmurs.
- Lungs: **Bilateral inspiratory crackles. Percussion is normal with no egophony.**
- Abd: Soft, non-tender, non-distended.
- Ext: No edema.
- Skin: No rashes.

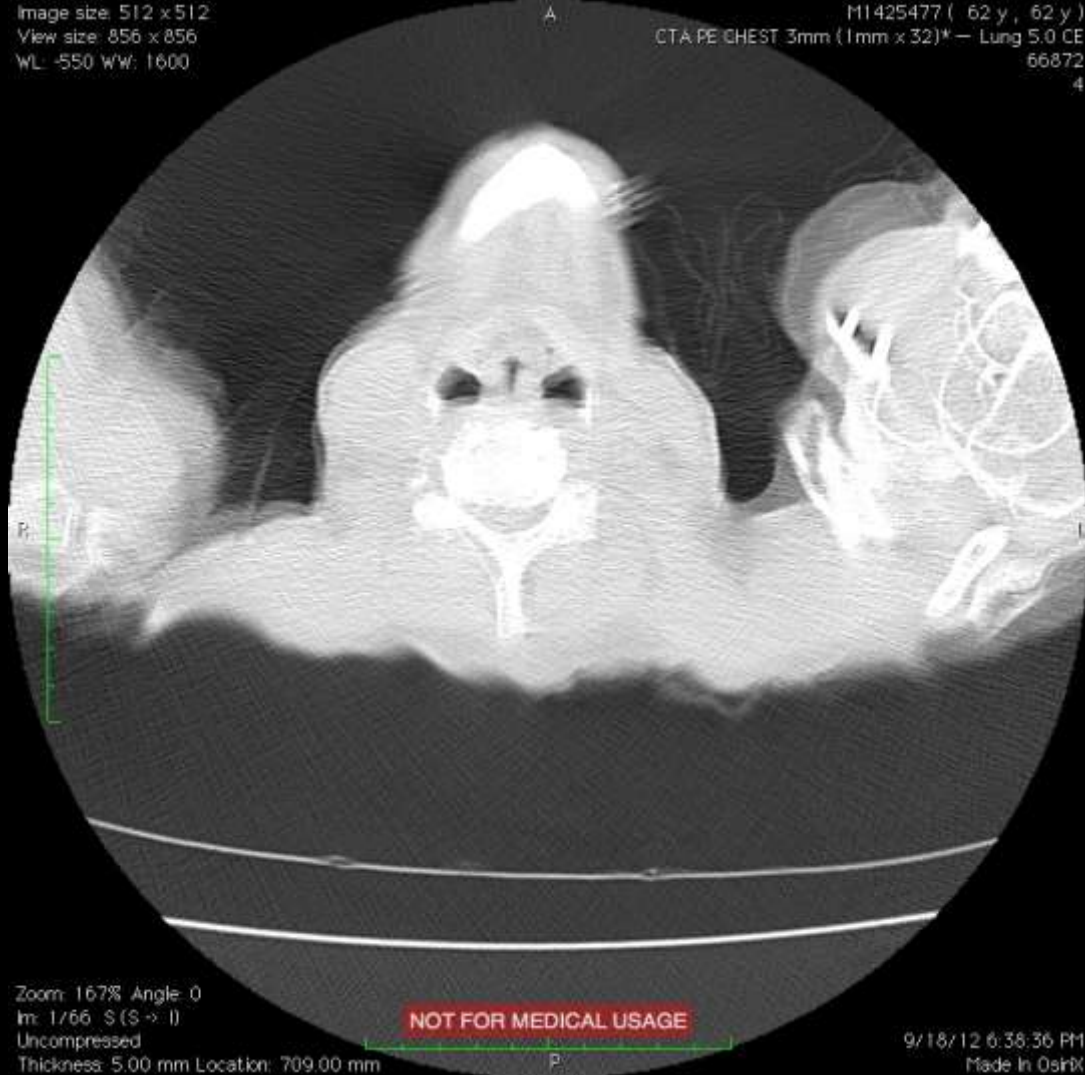


History of Present Illness

- She was seen by her PCP, who performed that CXR demonstrating bilateral infiltrates.
- Treated with course of levofloxacin with no improvement.
- She continues to feel dyspnea and fatigue, presenting to the emergency department. A CT is done.

Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 1/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 709.00 mm

NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 2/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 704.00 mm

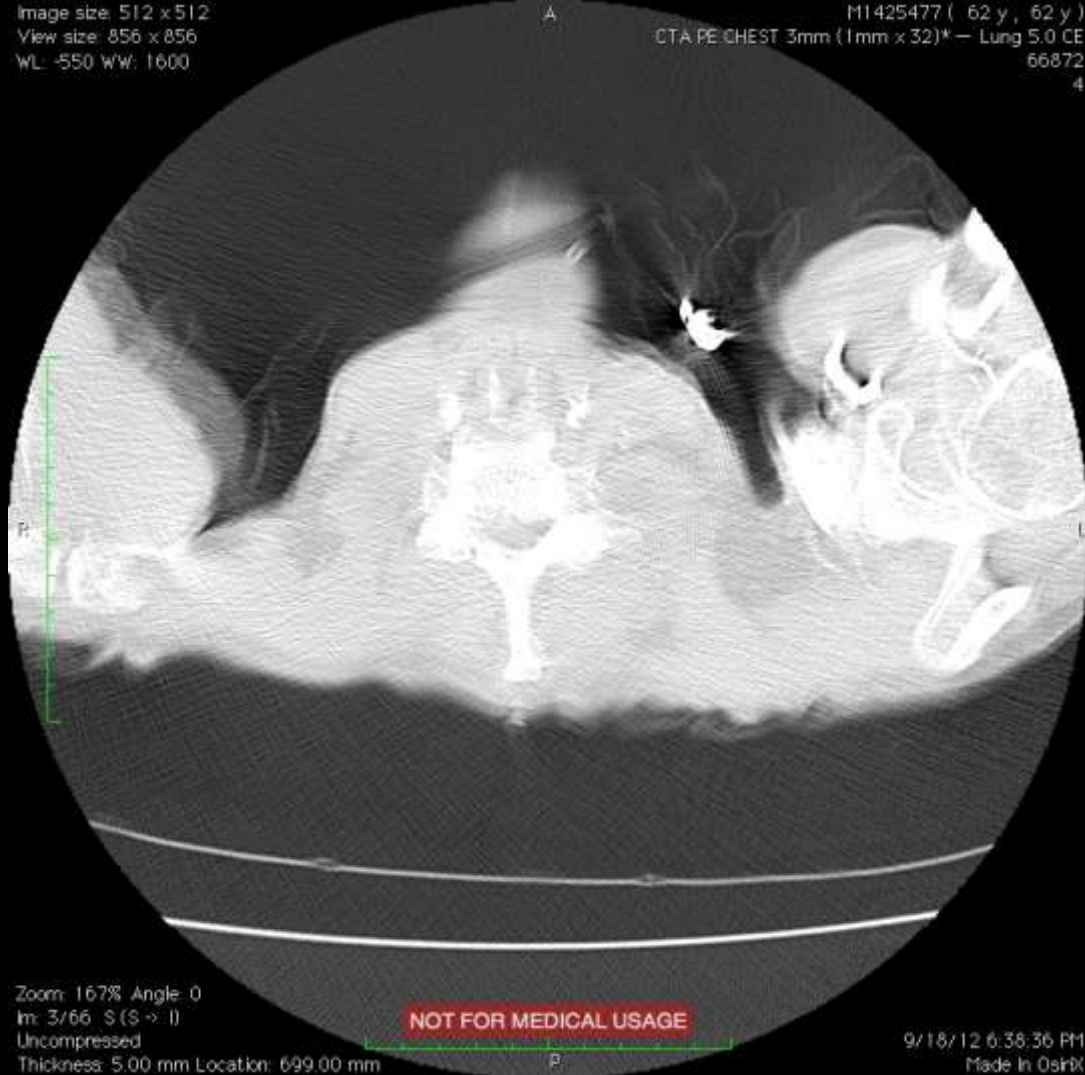
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 3/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 699.00 mm

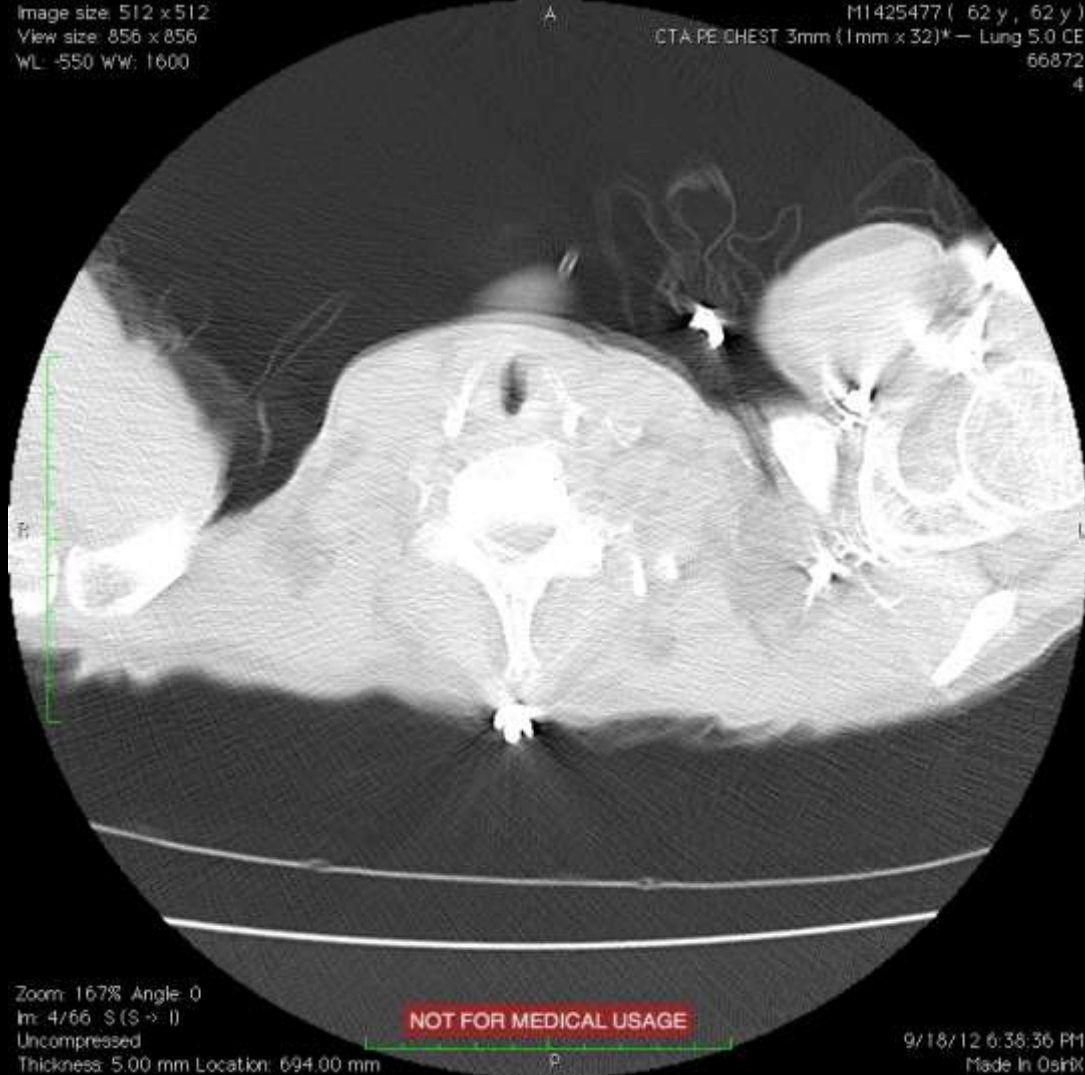
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 4/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 694.00 mm

NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 5/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 689.00 mm

NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 6/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 684.00 mm

NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 7/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 679.00 mm

NOT FOR MEDICAL USAGE

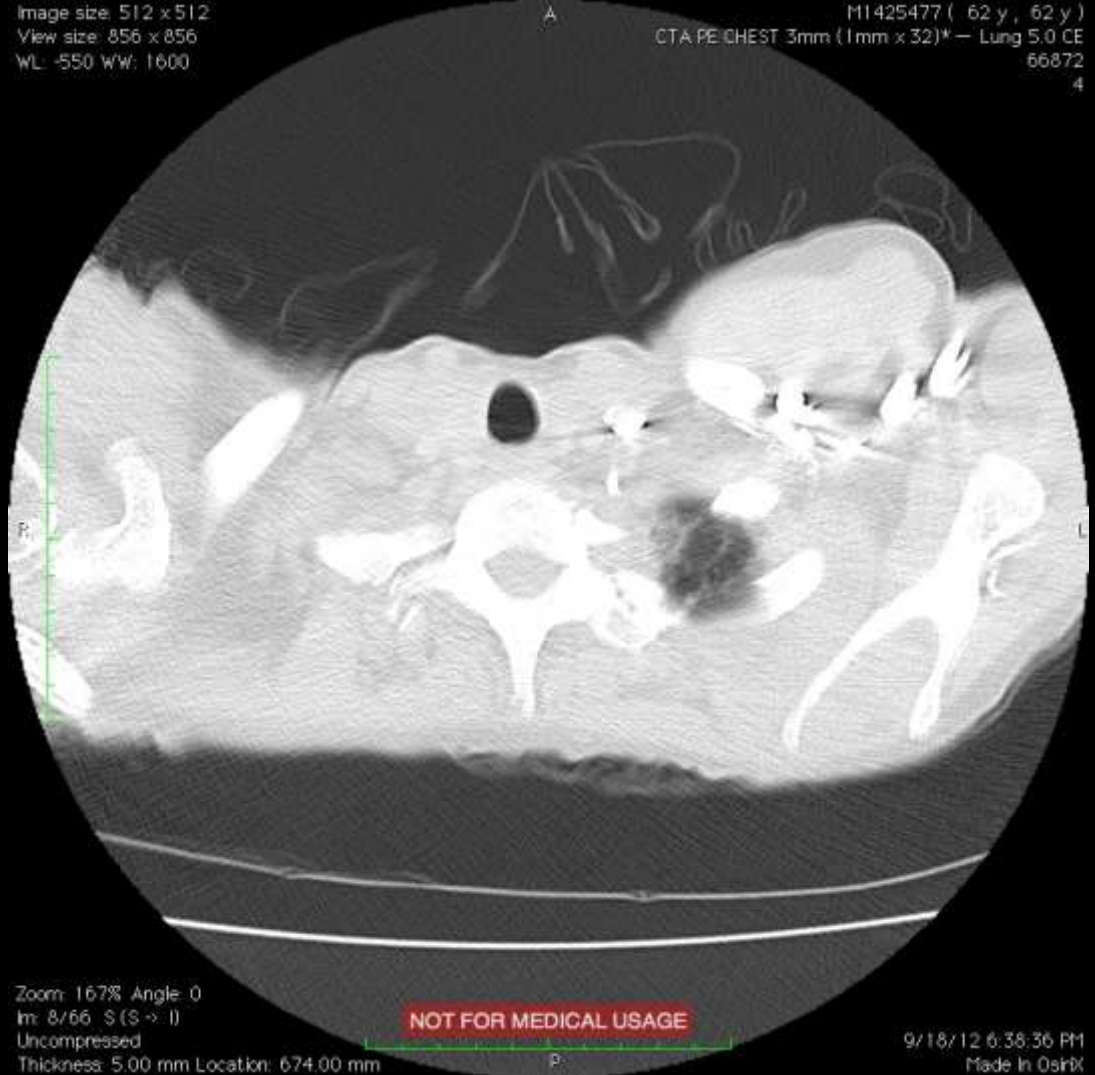
9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872

4



Zoom: 167% Angle: 0
Im: 8/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 674.00 mm

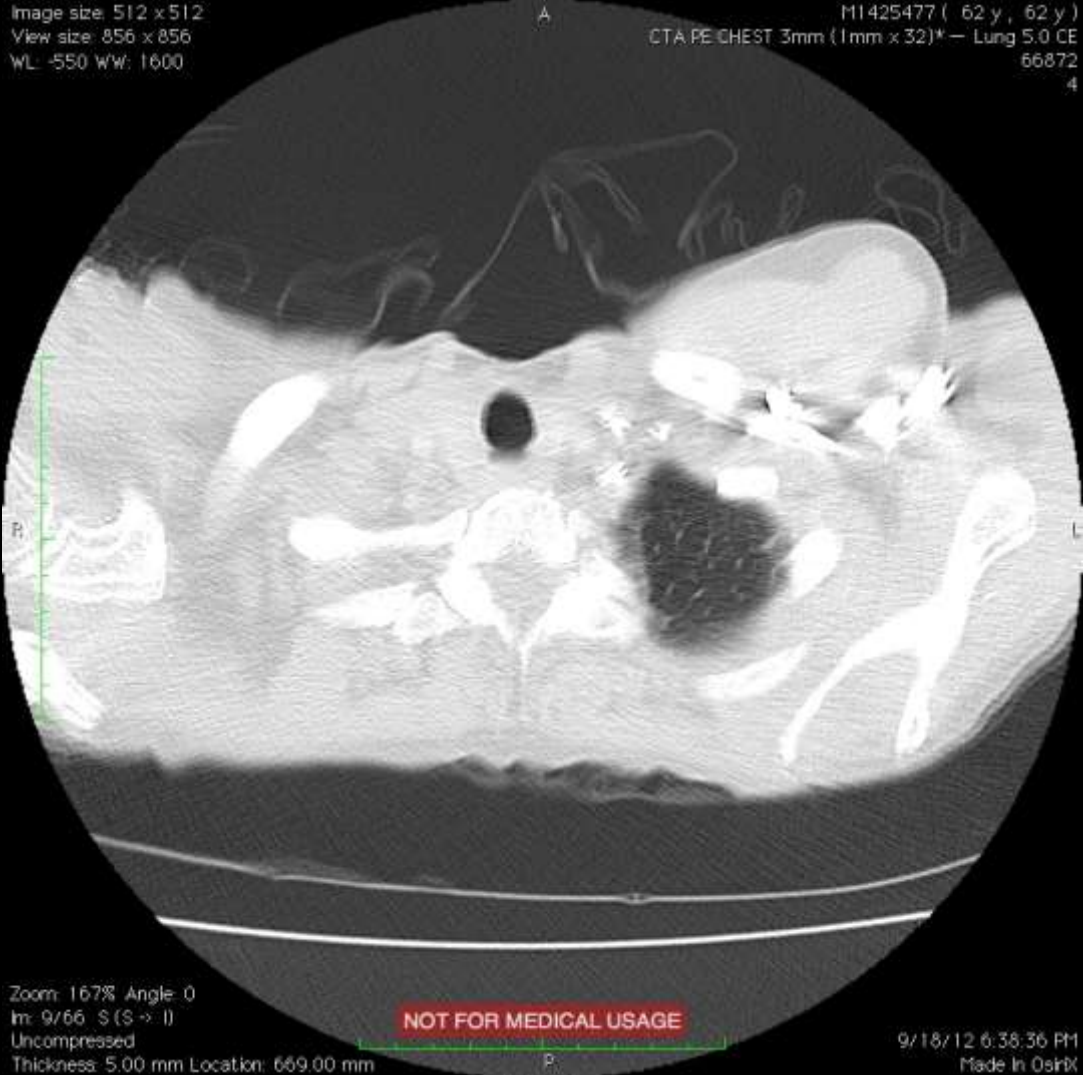
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 9/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 669.00 mm

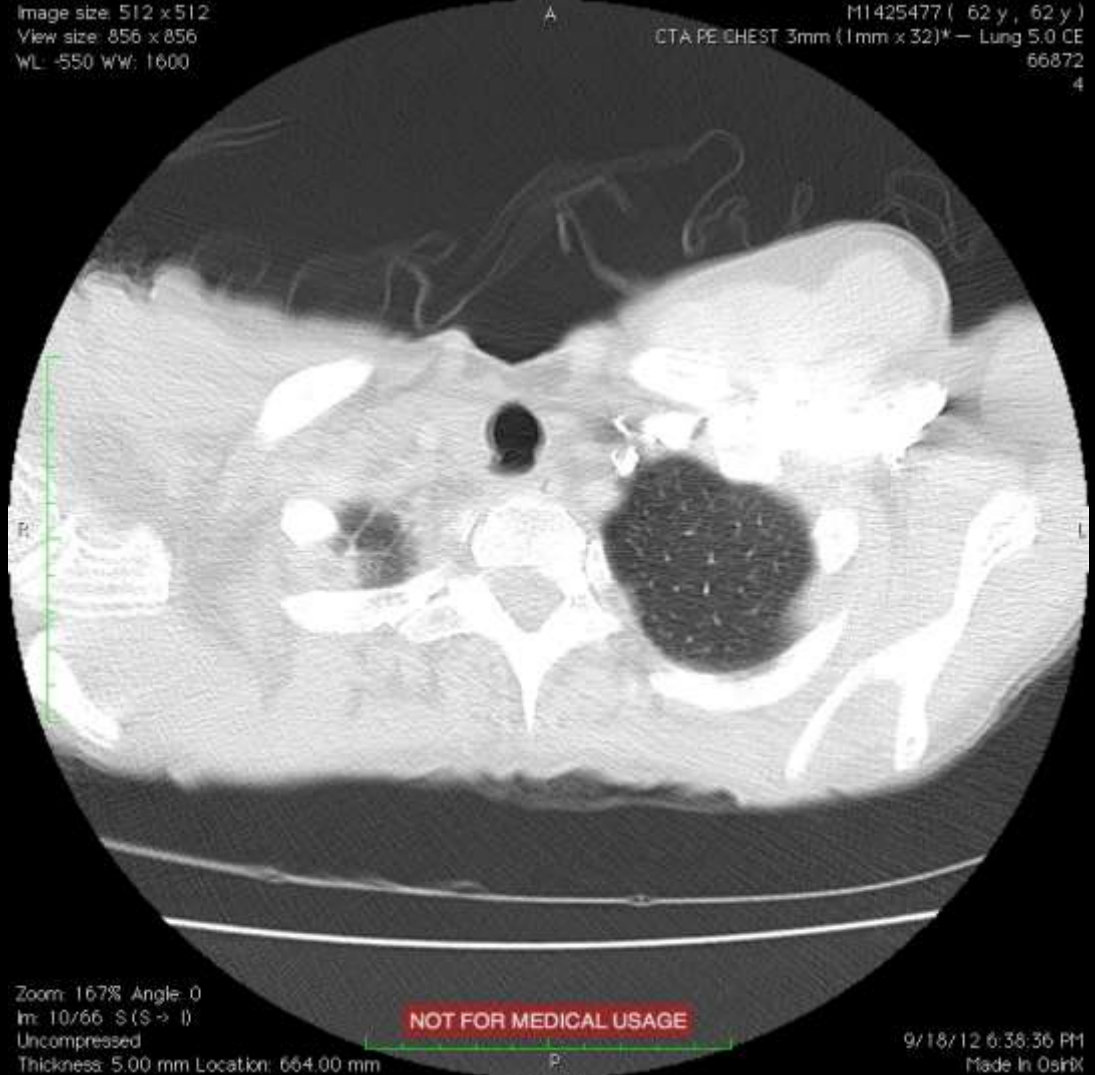
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 10/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 664.00 mm

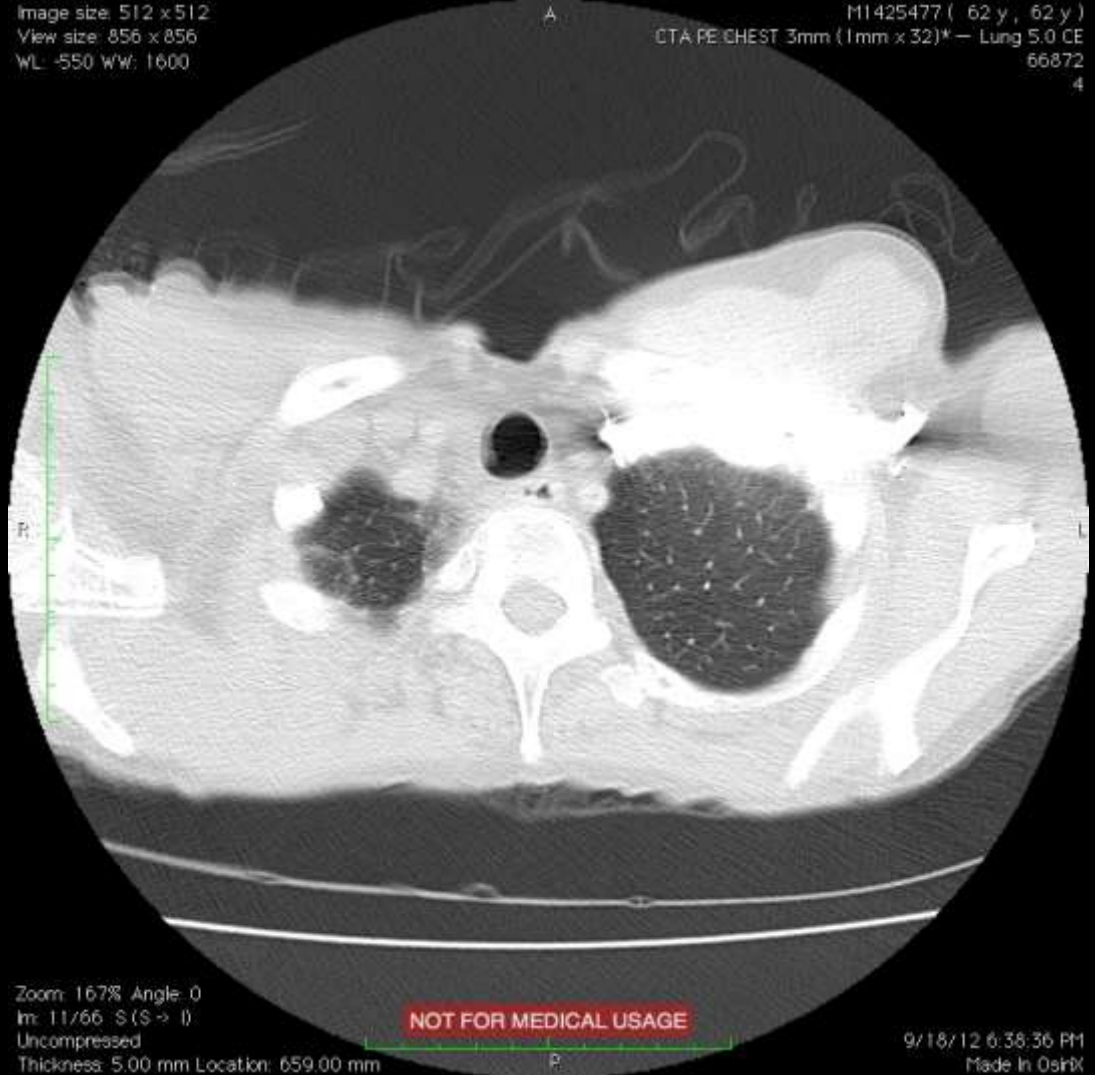
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 11/66 S(S → I)
Uncompressed
Thickness: 5.00 mm Location: 659.00 mm

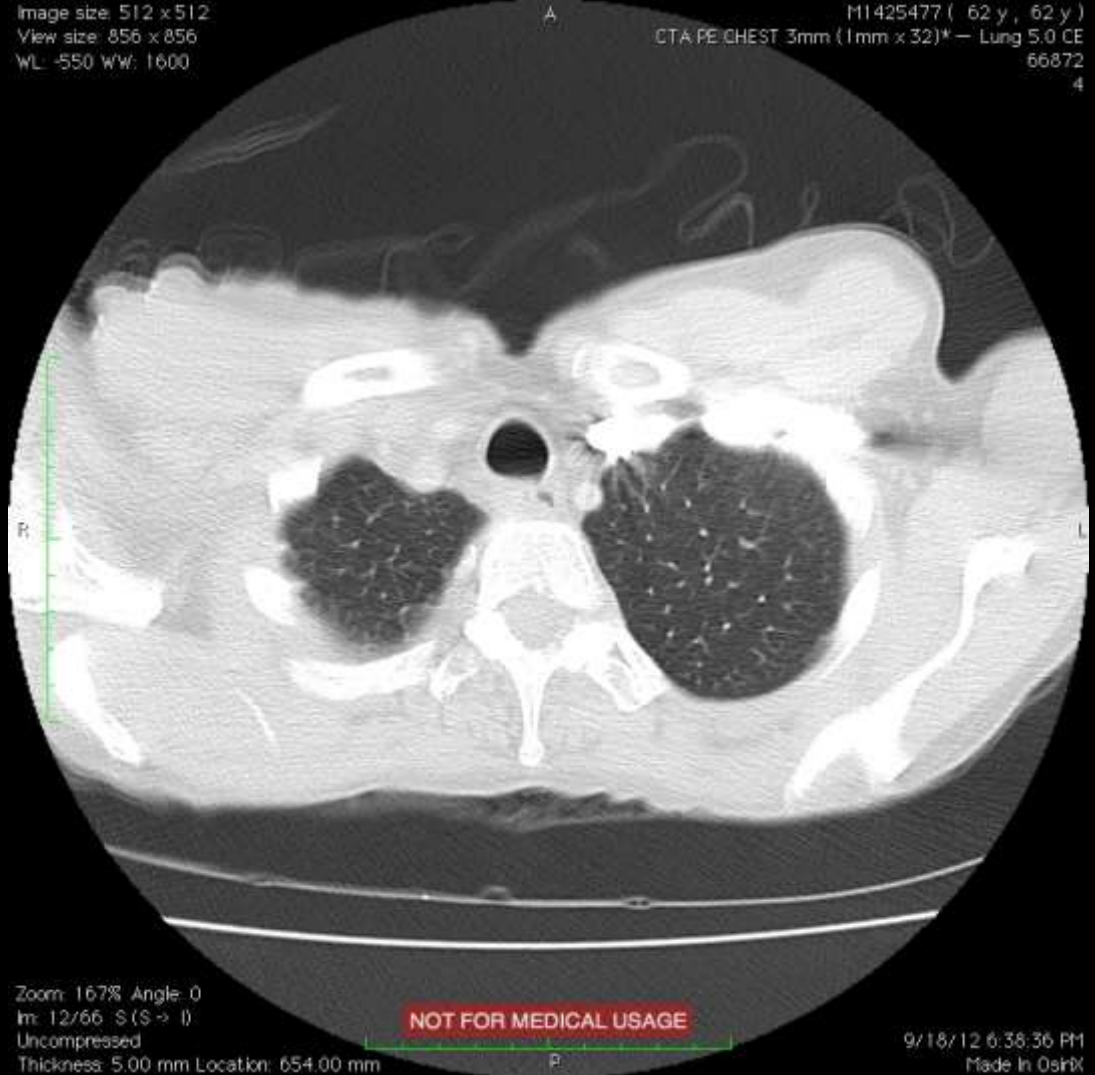
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 12/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 654.00 mm

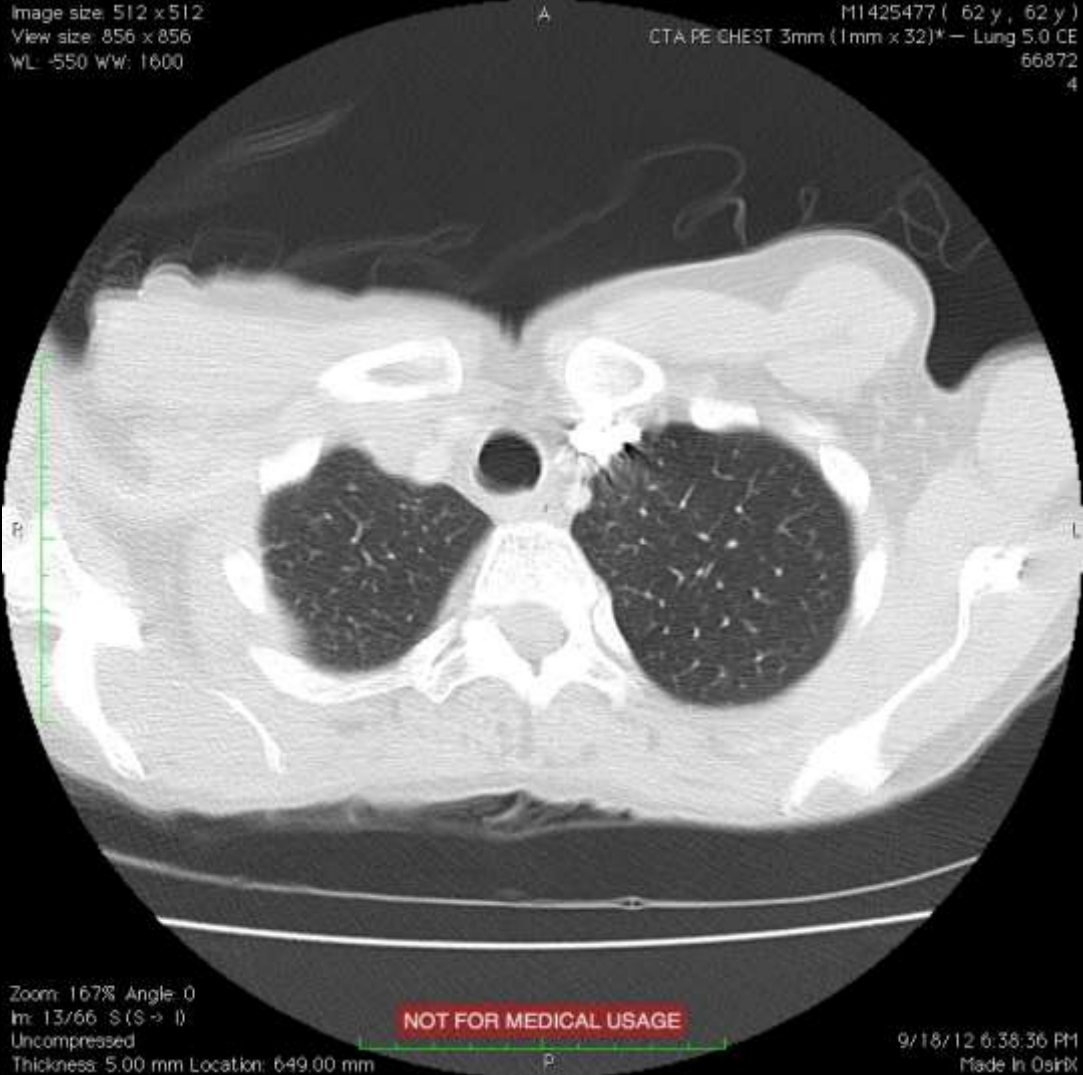
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 13/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 649.00 mm

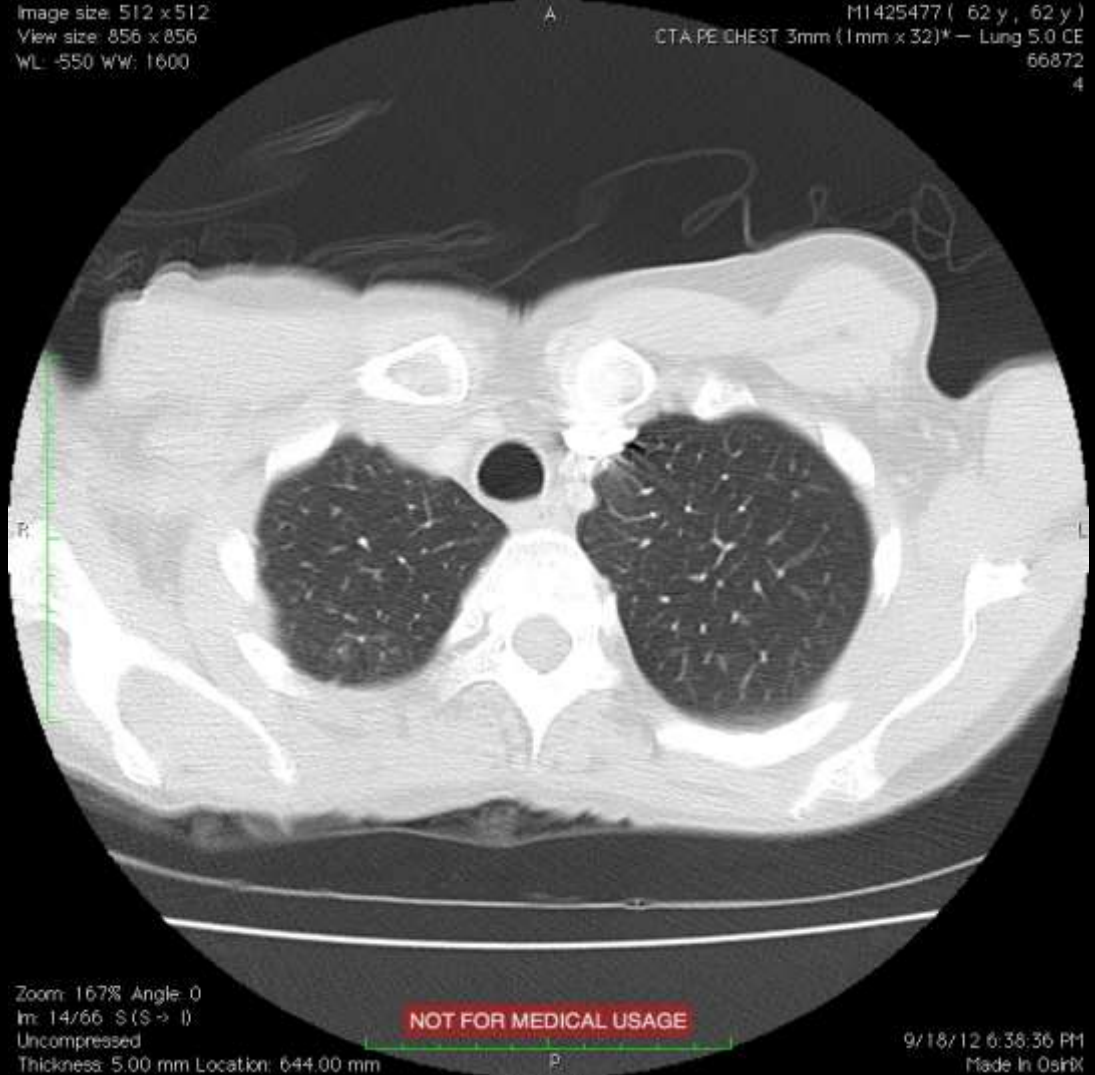
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 14/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 644.00 mm

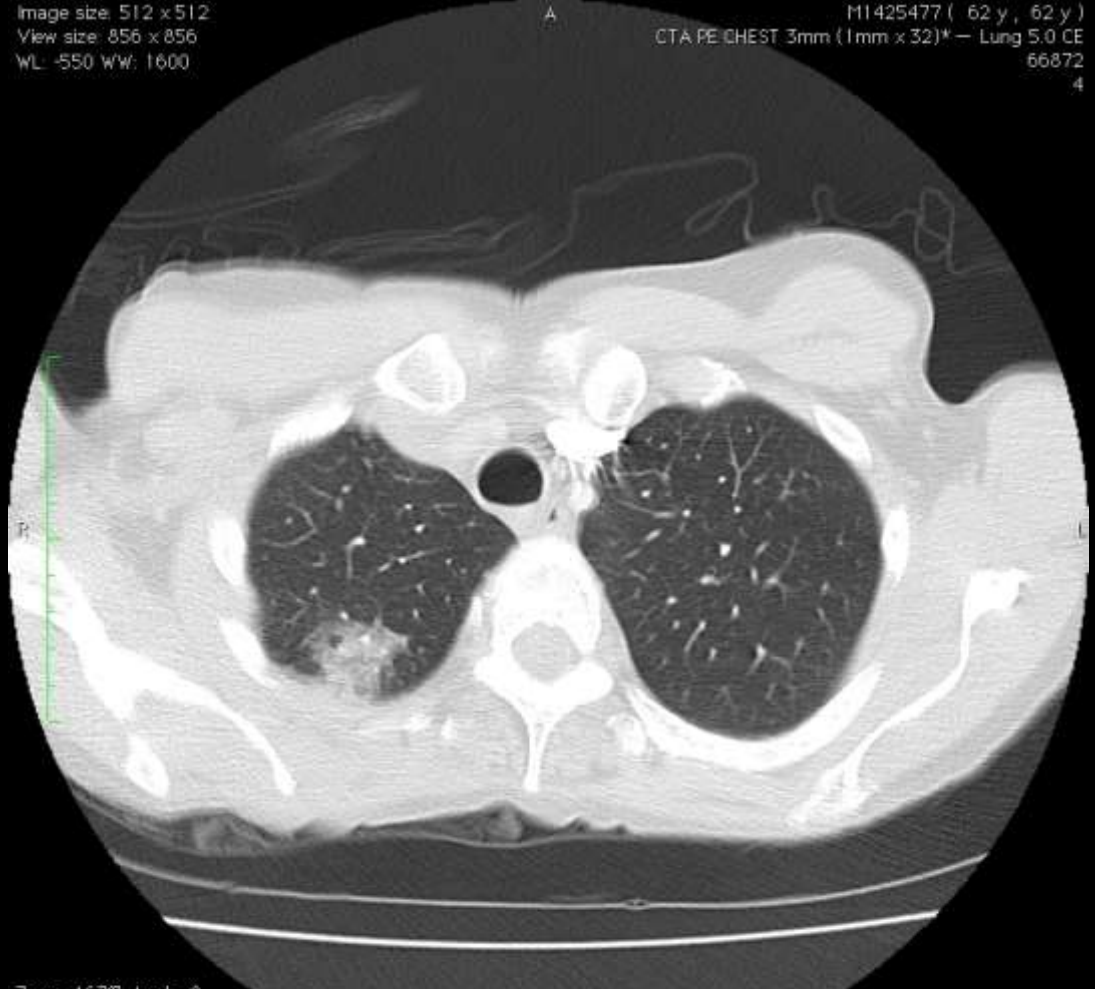
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 15/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 639.00 mm

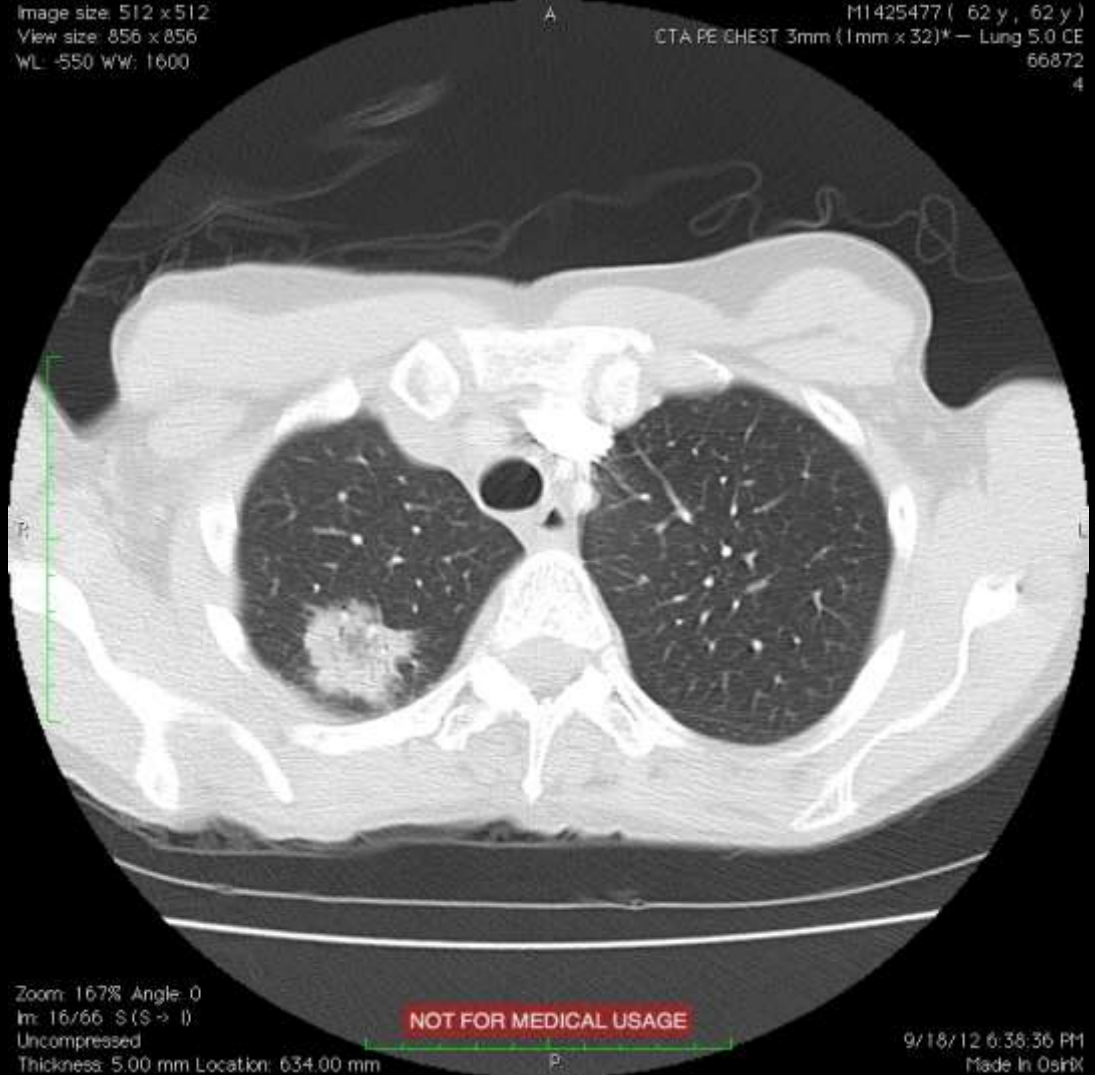
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 16/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 634.00 mm

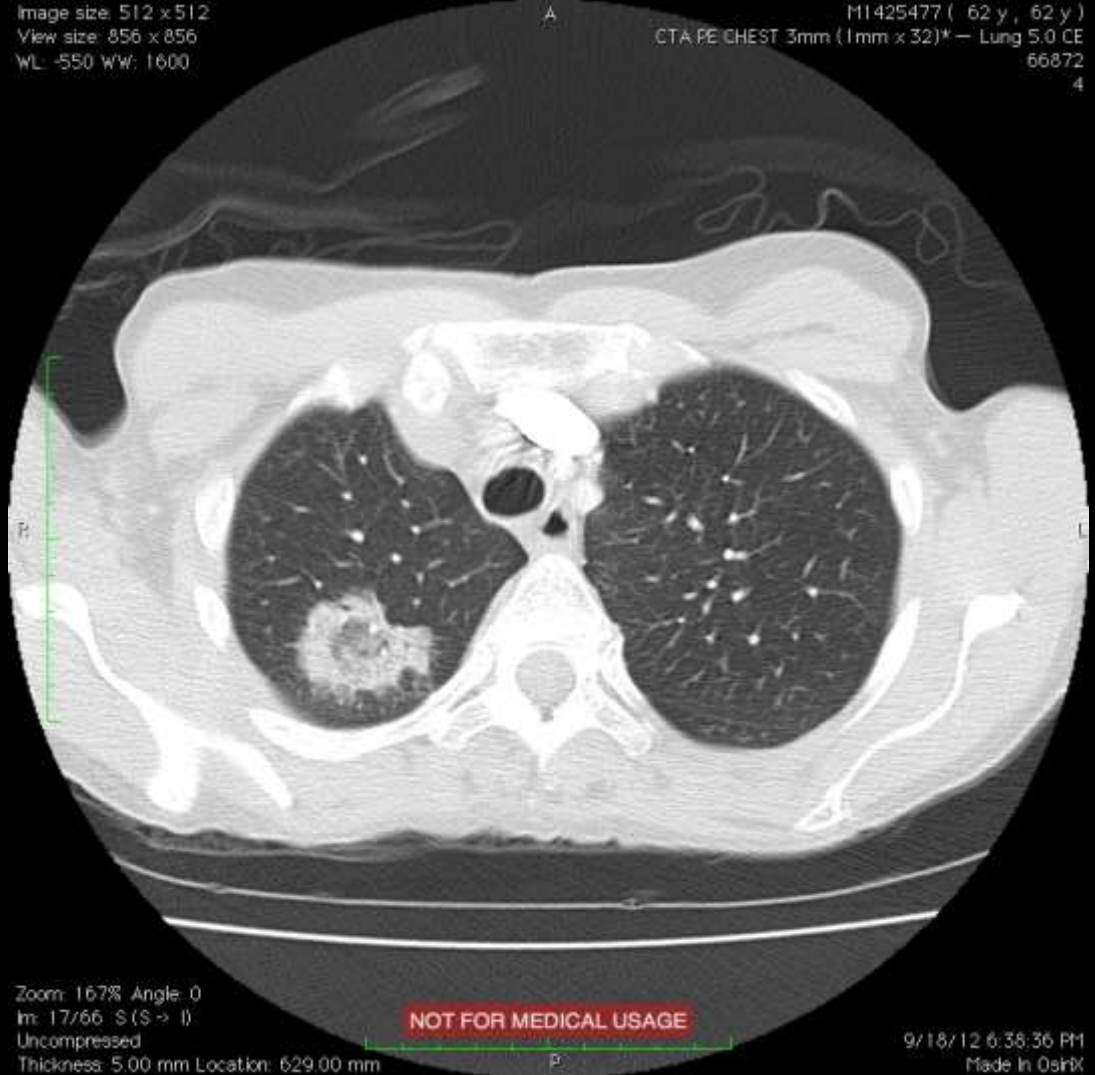
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 17/66 S(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 629.00 mm

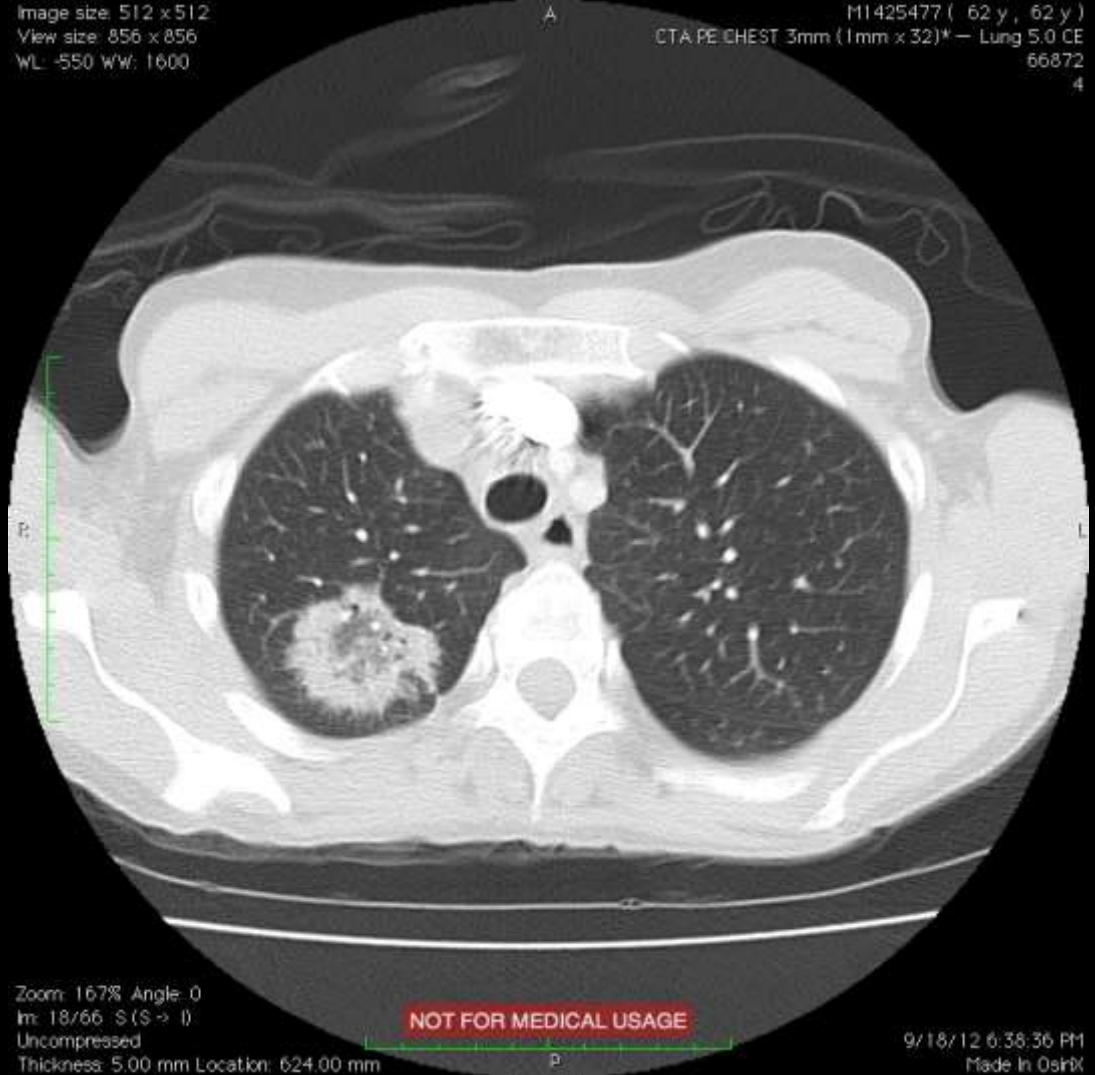
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 18/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 624.00 mm

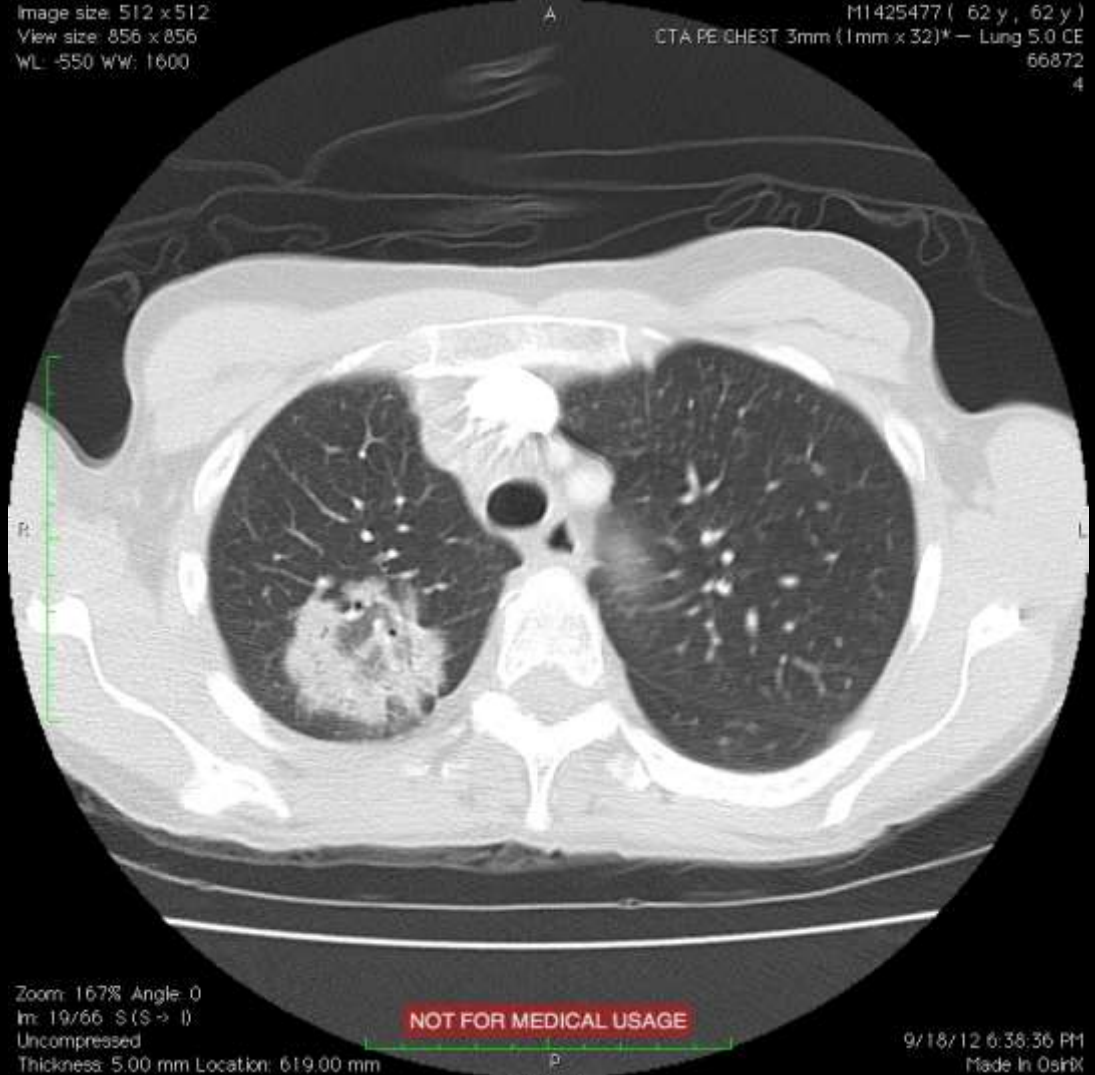
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 19/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 619.00 mm

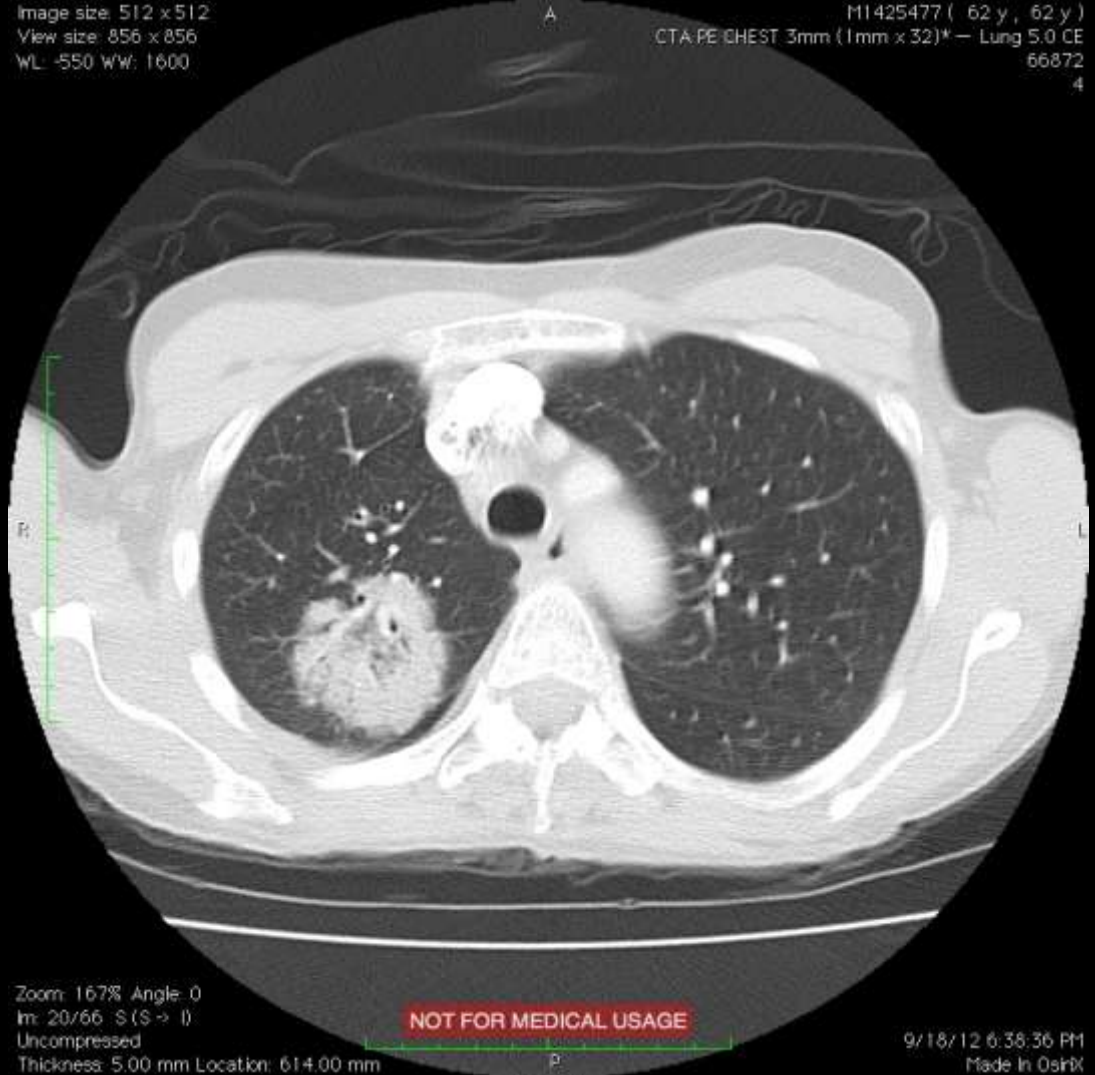
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 20/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 614.00 mm

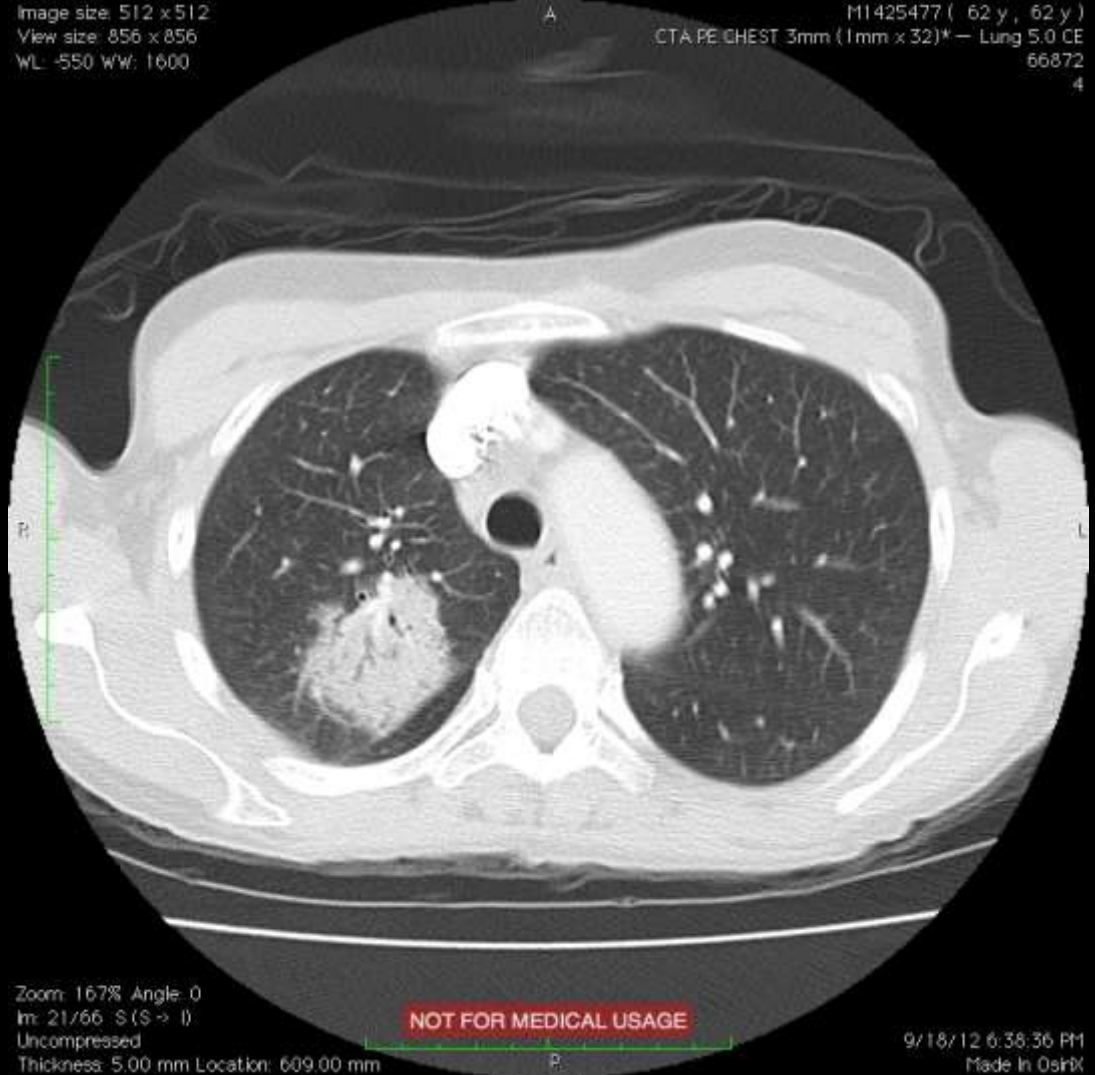
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



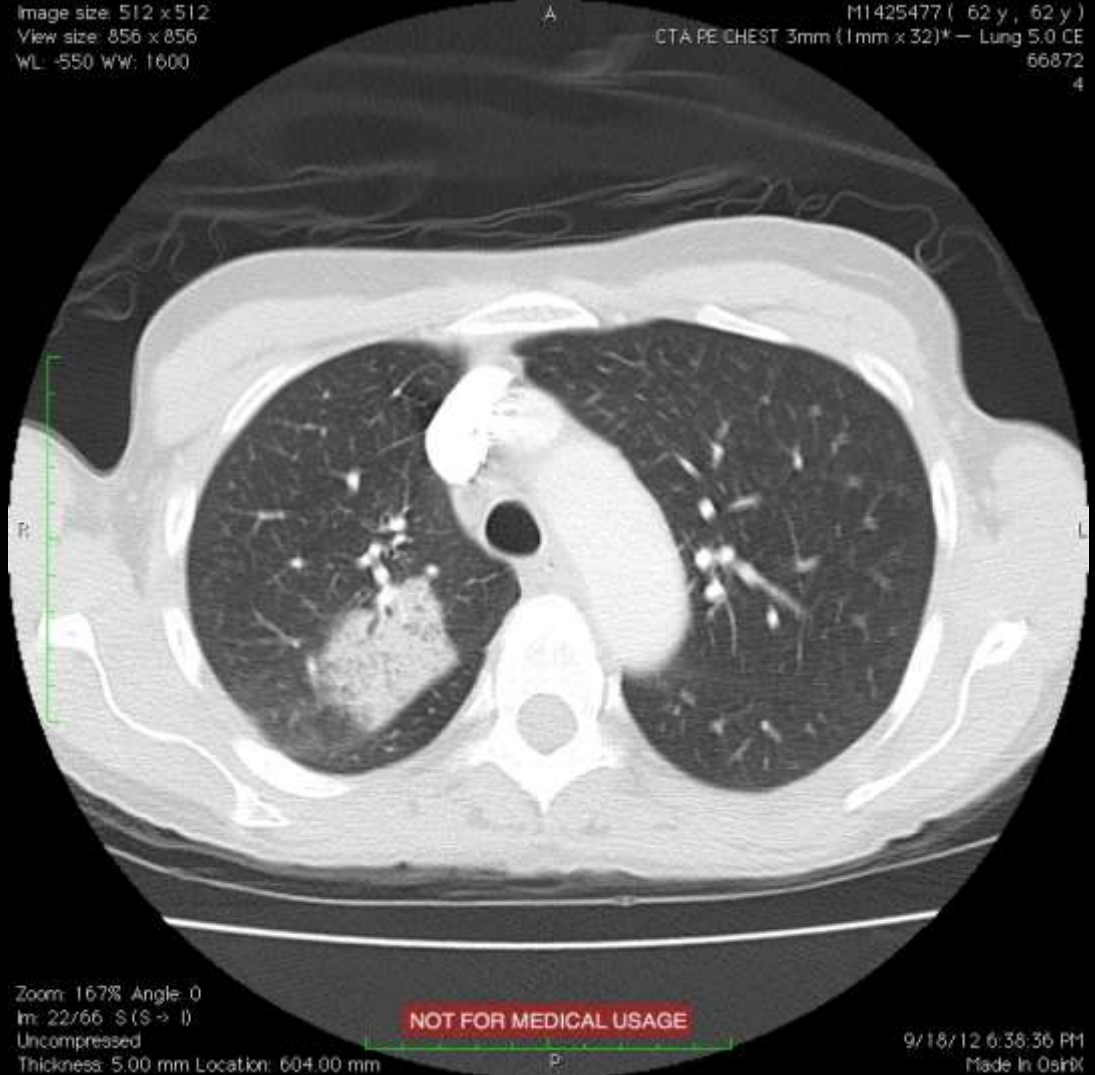
Zoom: 167% Angle: 0
In: 21/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 609.00 mm

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 22/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 604.00 mm

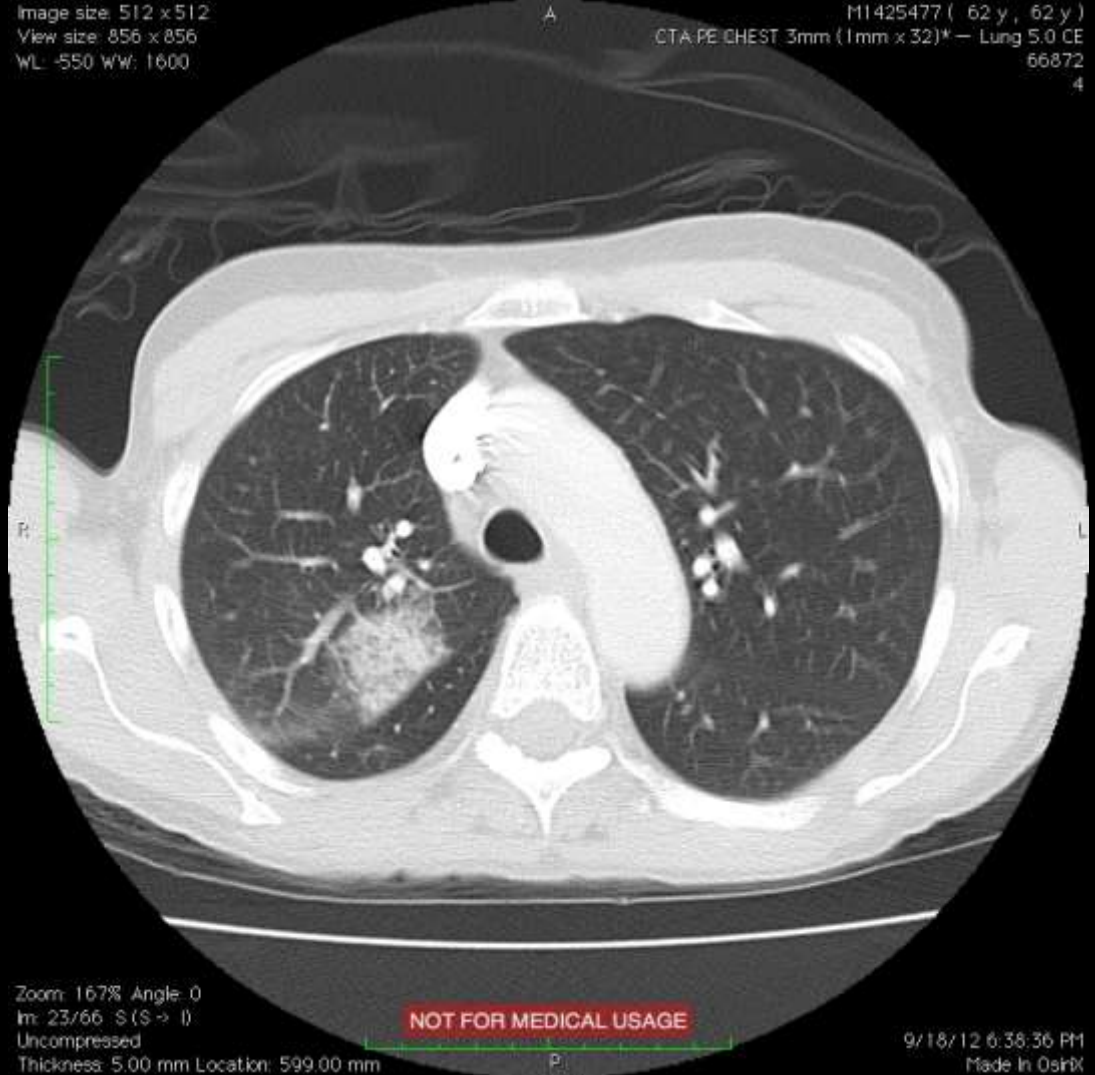
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 23/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 599.00 mm

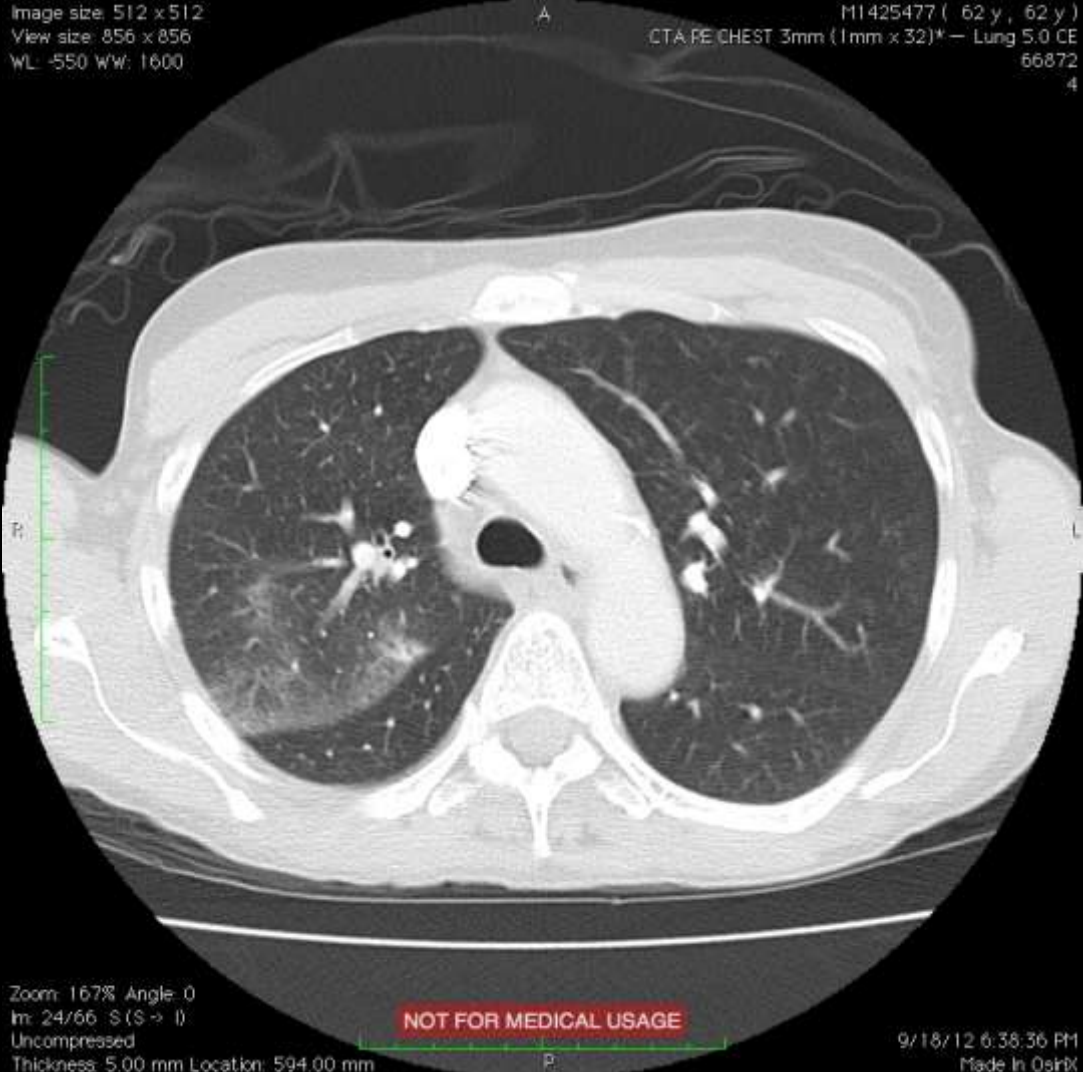
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 24/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 594.00 mm

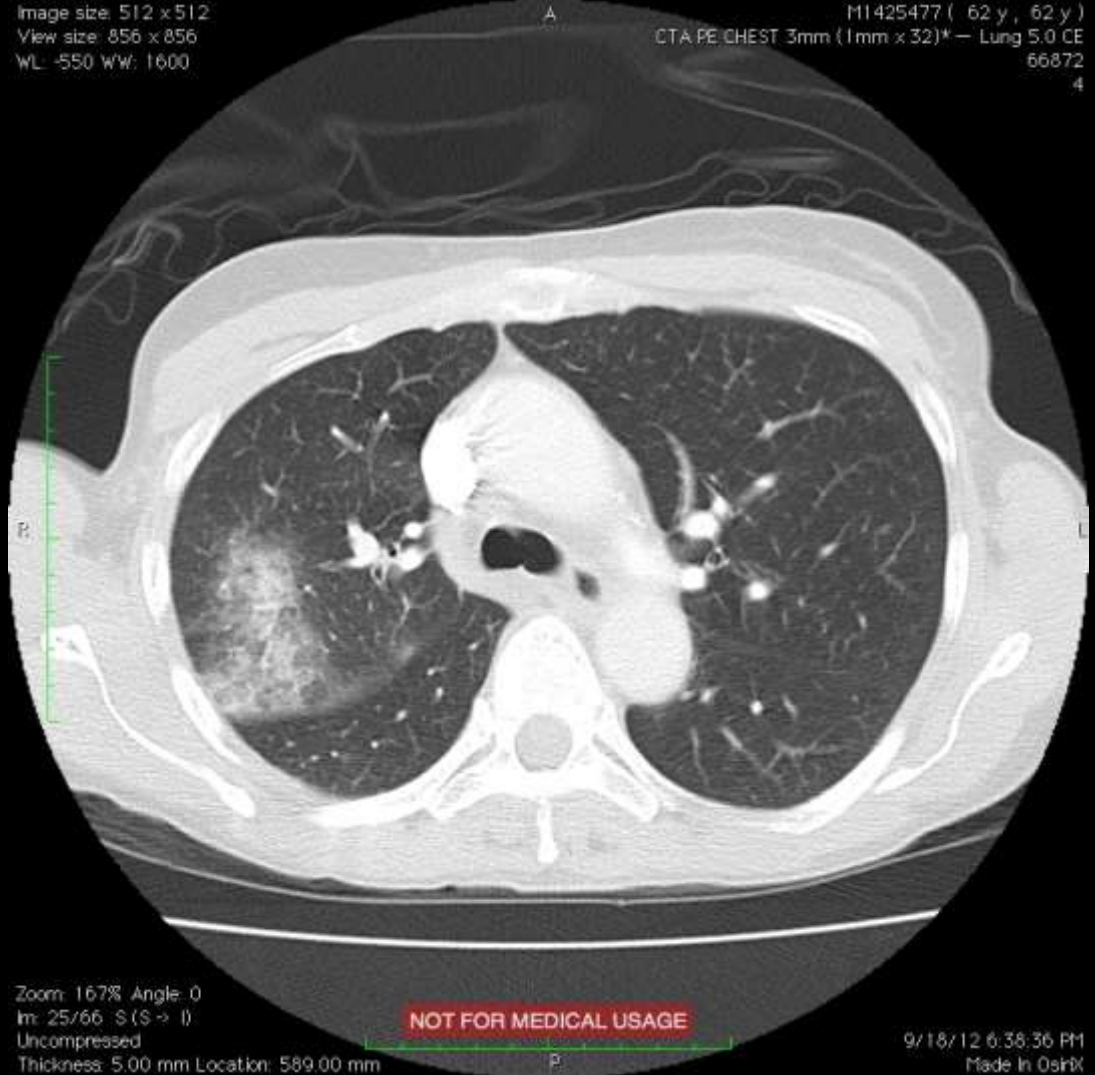
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 25/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 589.00 mm

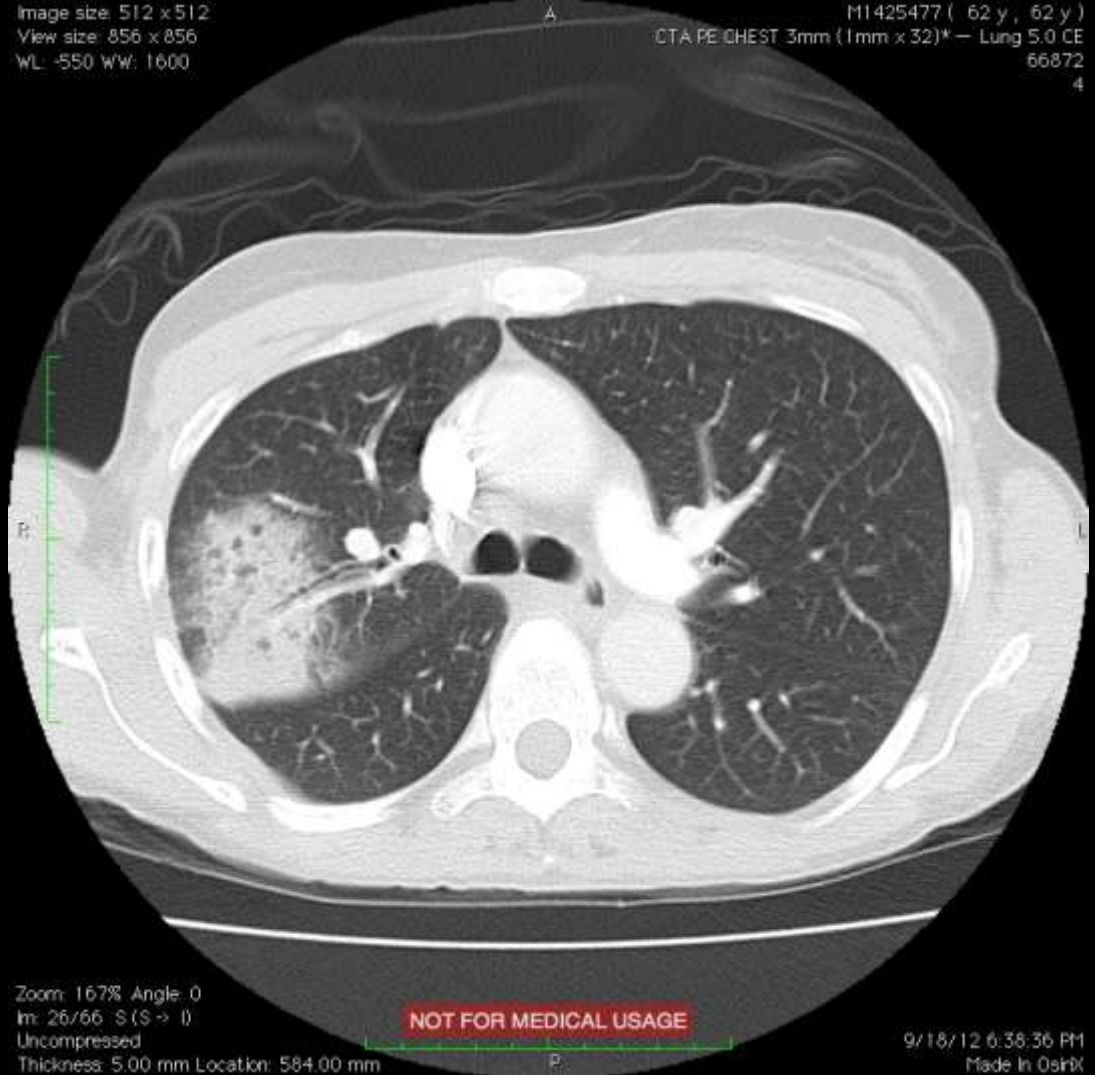
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 26/66 S (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 584.00 mm

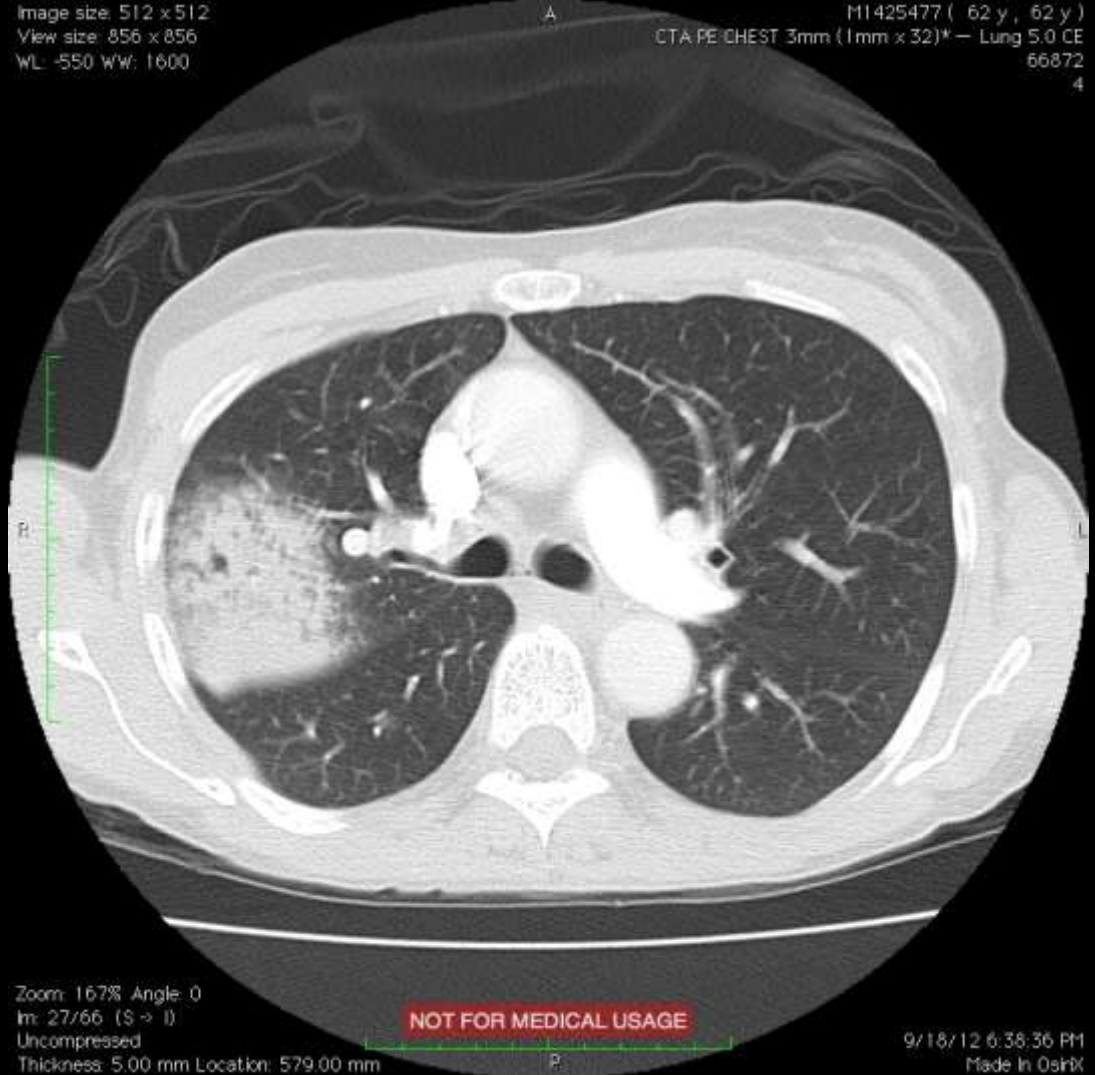
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 W/W: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 27/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 579.00 mm

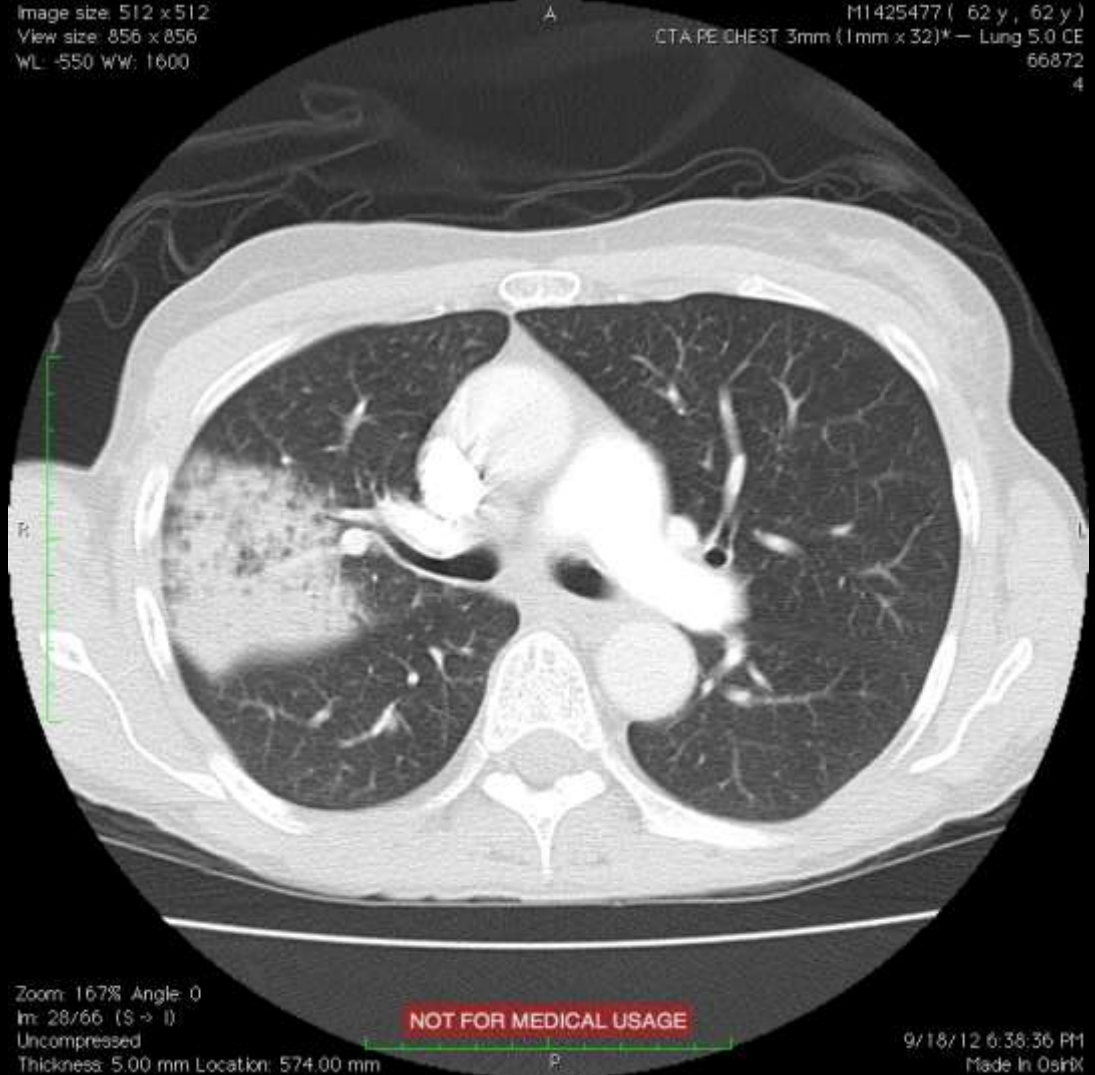
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 28/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 574.00 mm

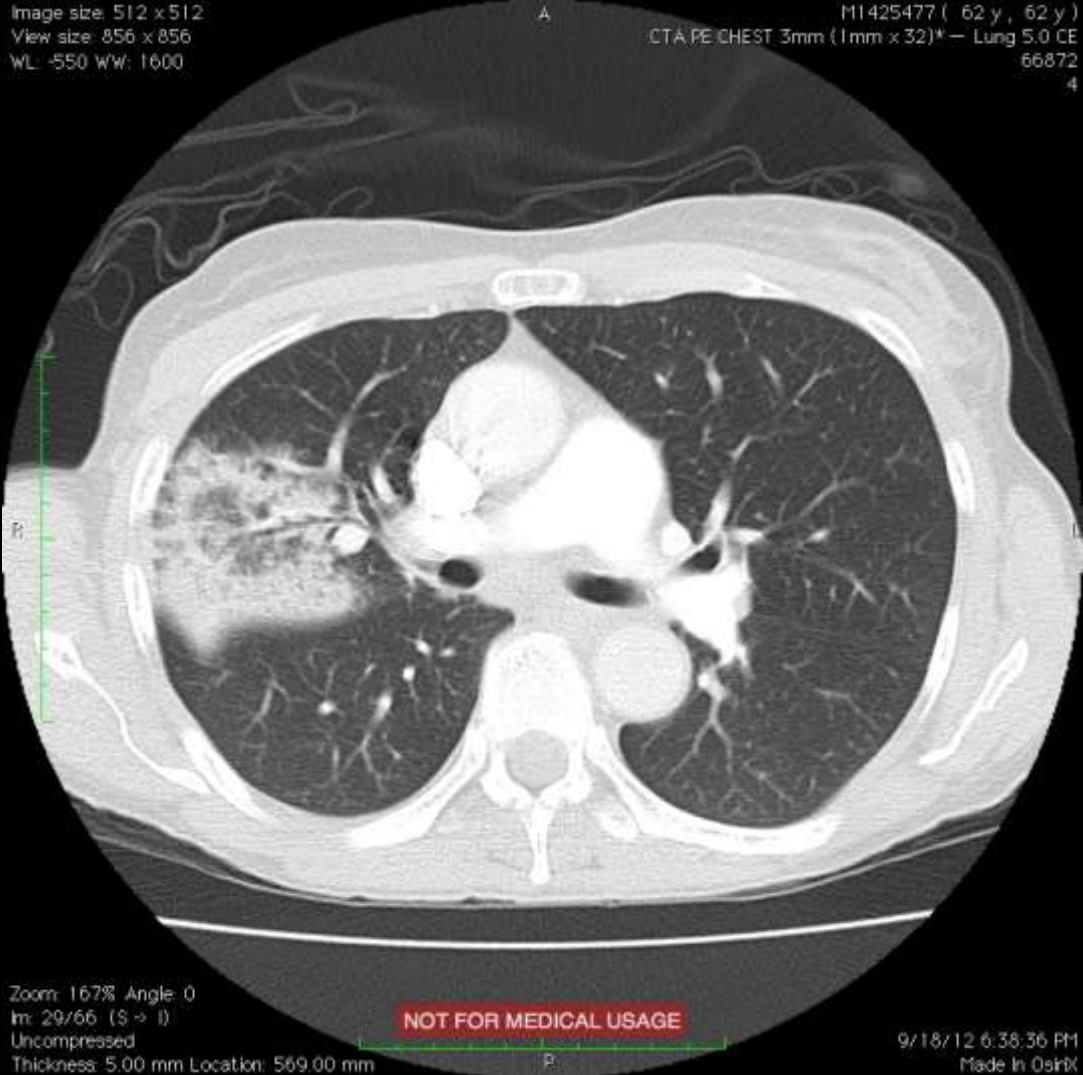
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 29/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 569.00 mm

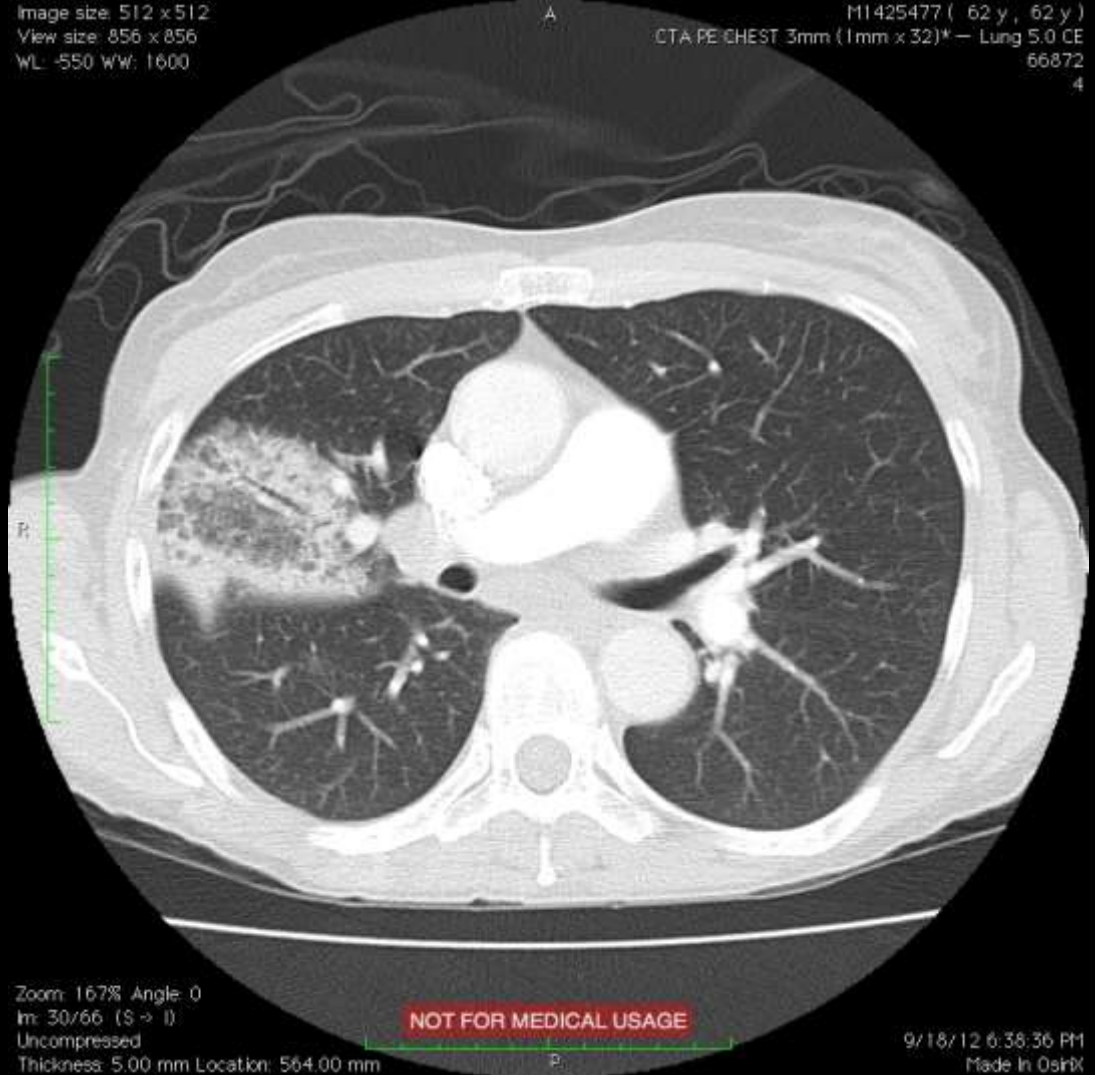
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 30/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 564.00 mm

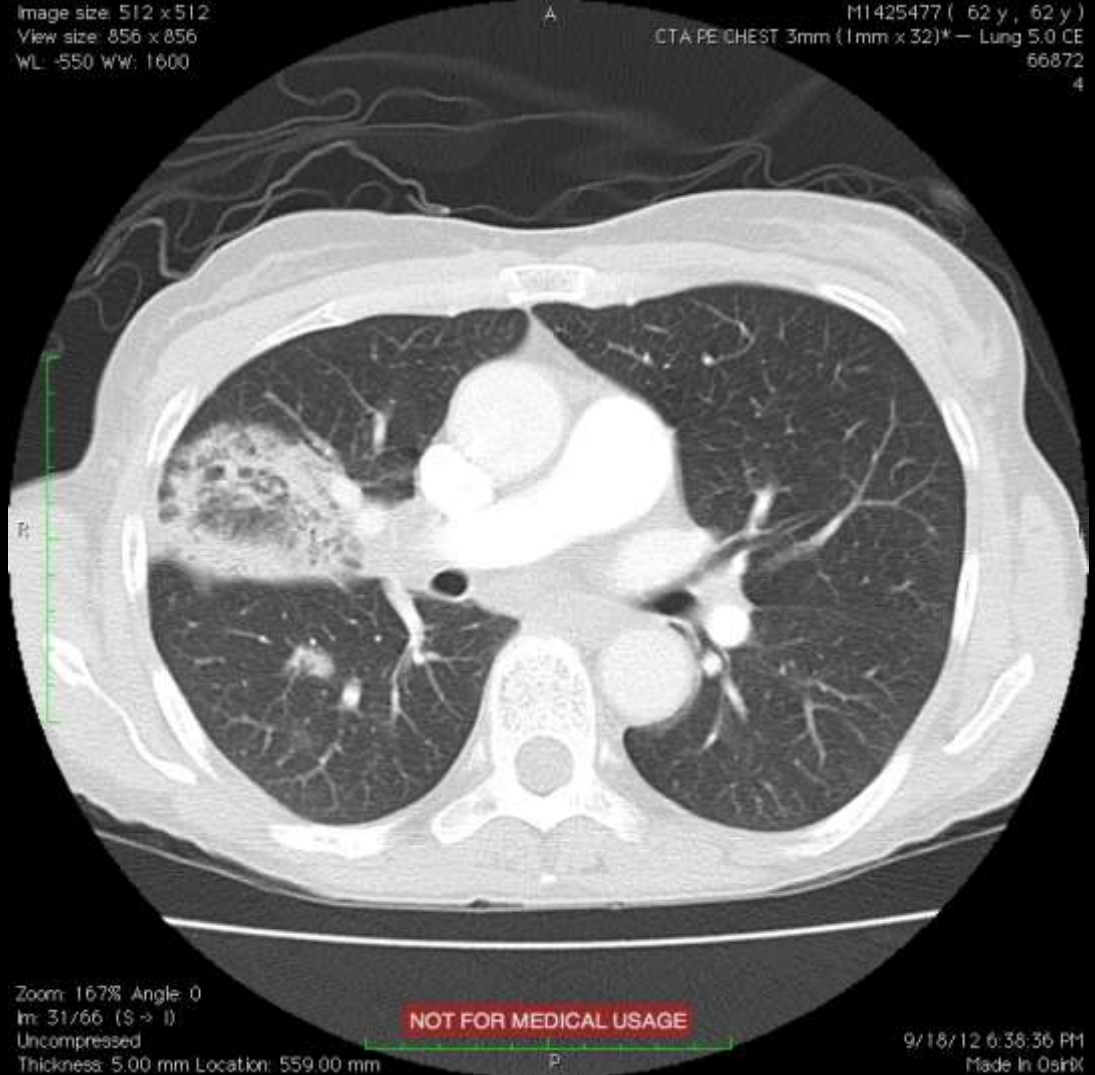
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 31/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 559.00 mm

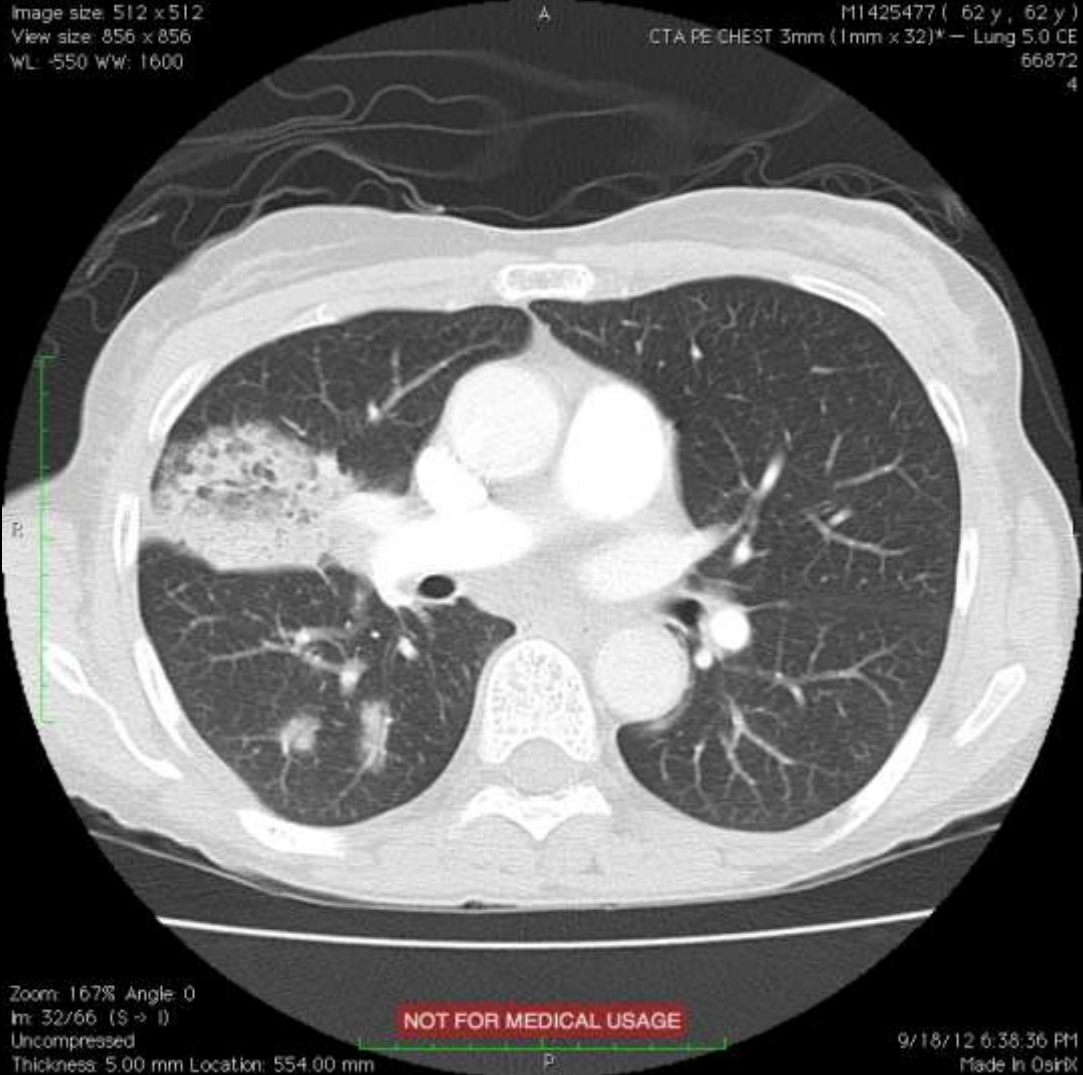
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 32/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 554.00 mm

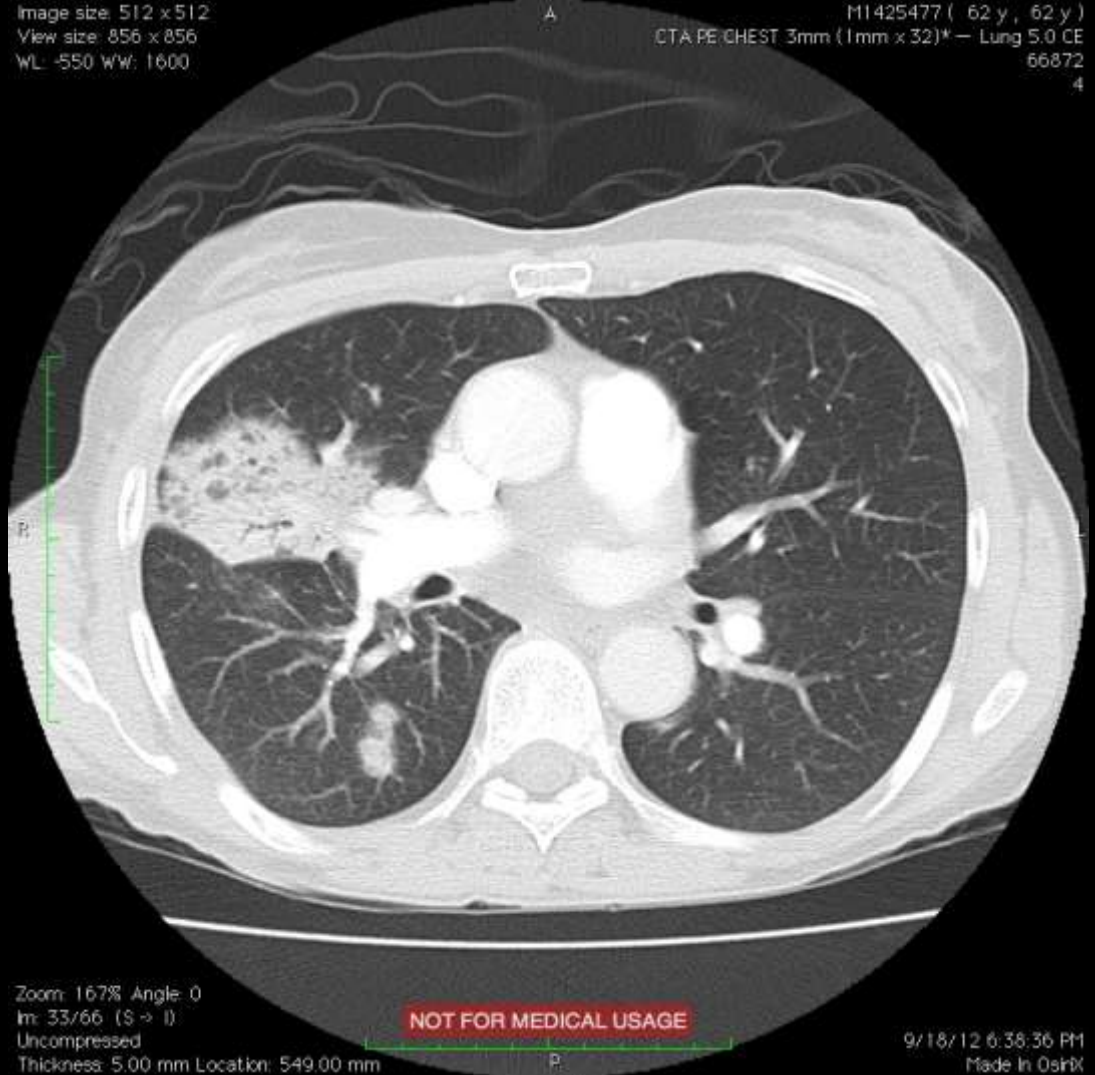
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 33/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 549.00 mm

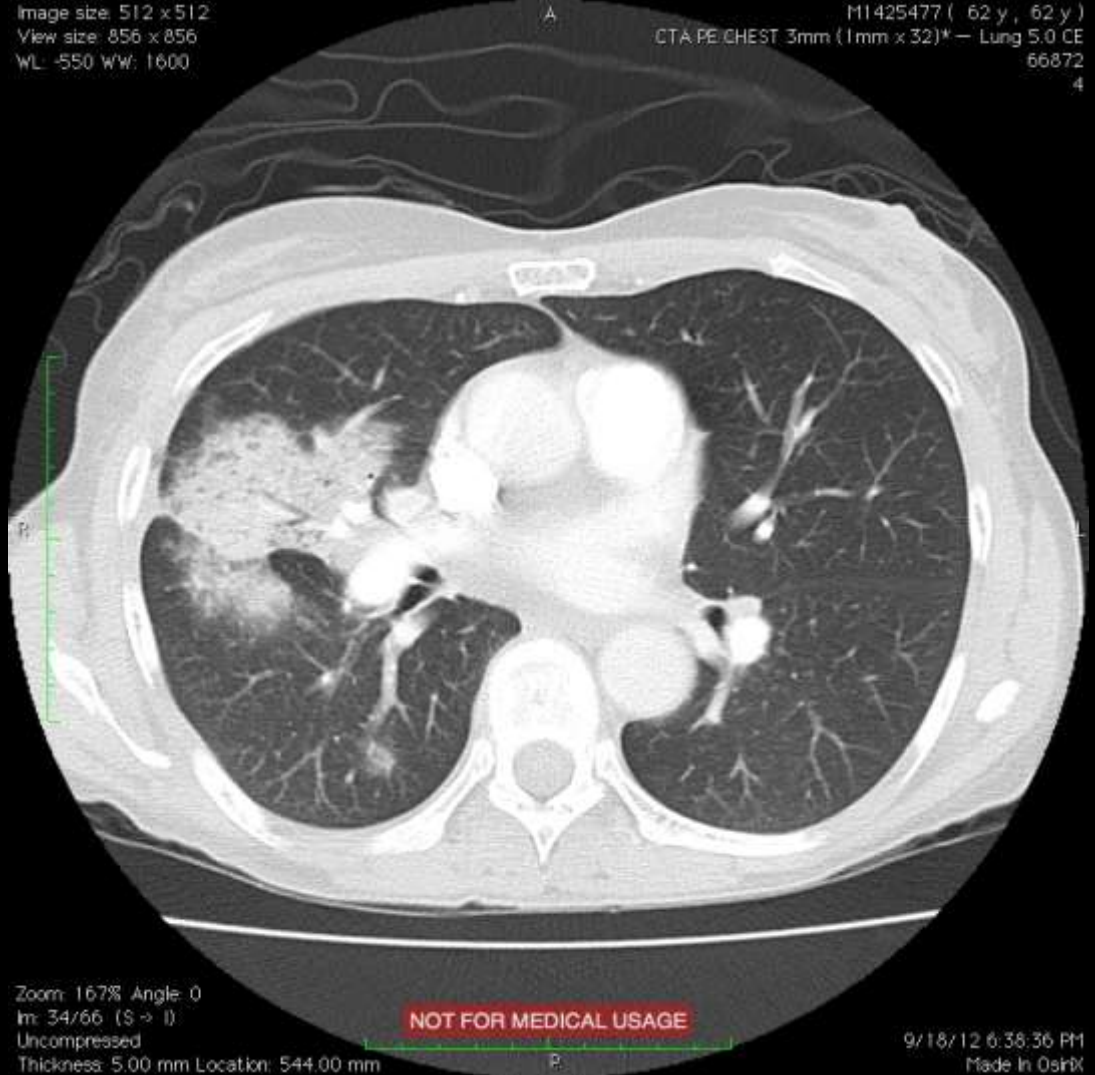
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 34/66 (S - I)
Uncompressed
Thickness: 5.00 mm Location: 544.00 mm

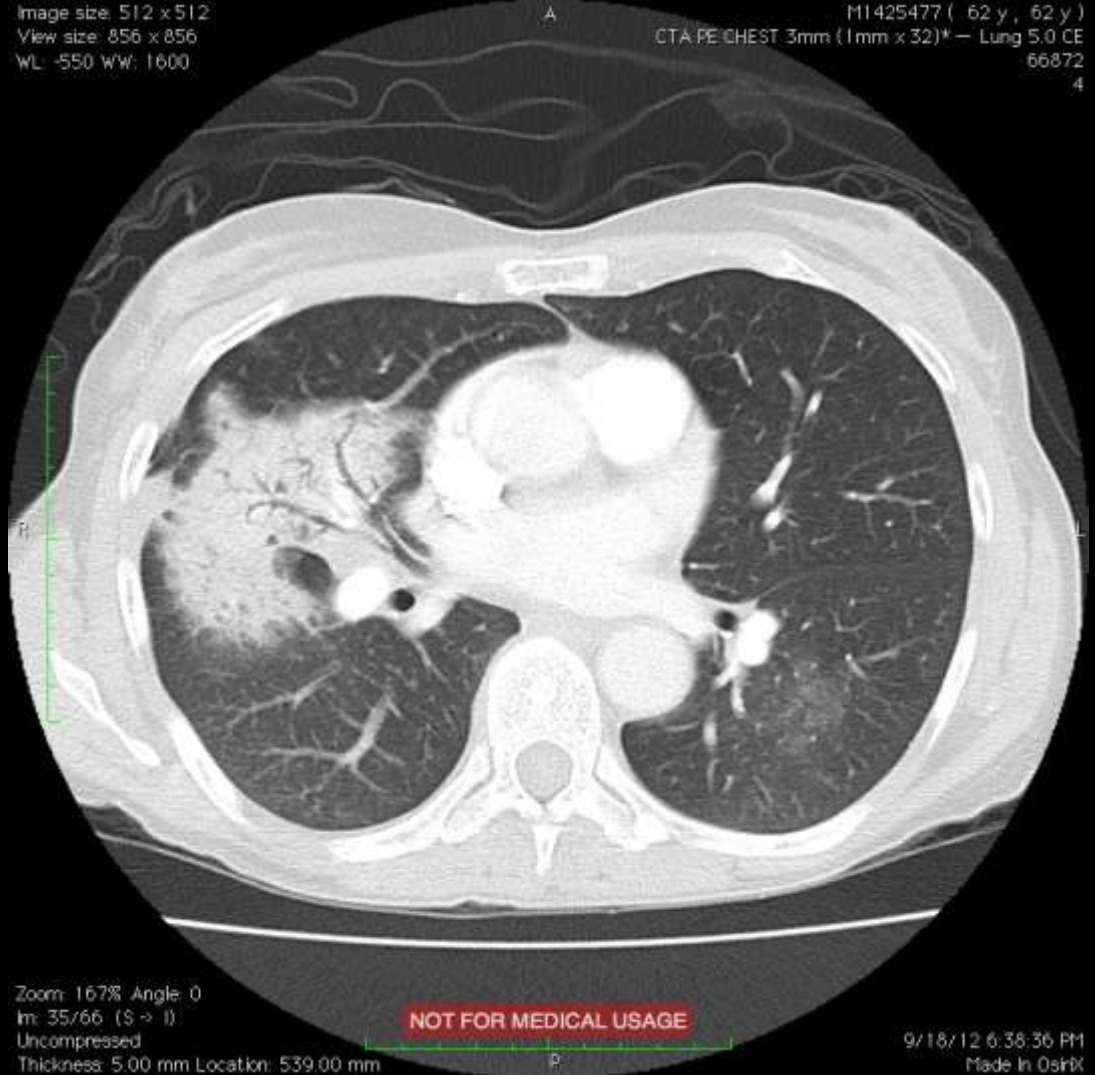
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 35/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 539.00 mm

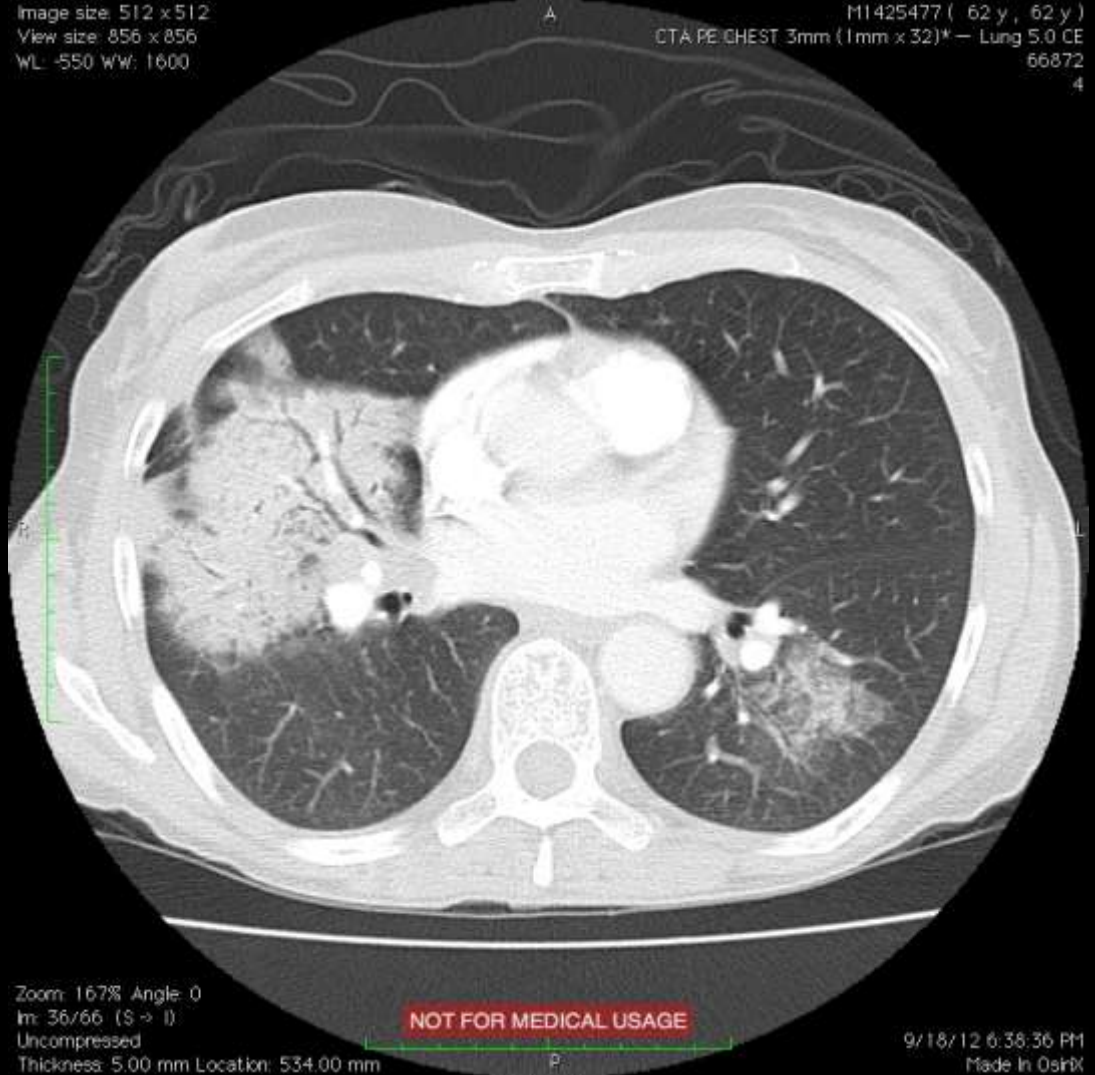
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 36/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 534.00 mm

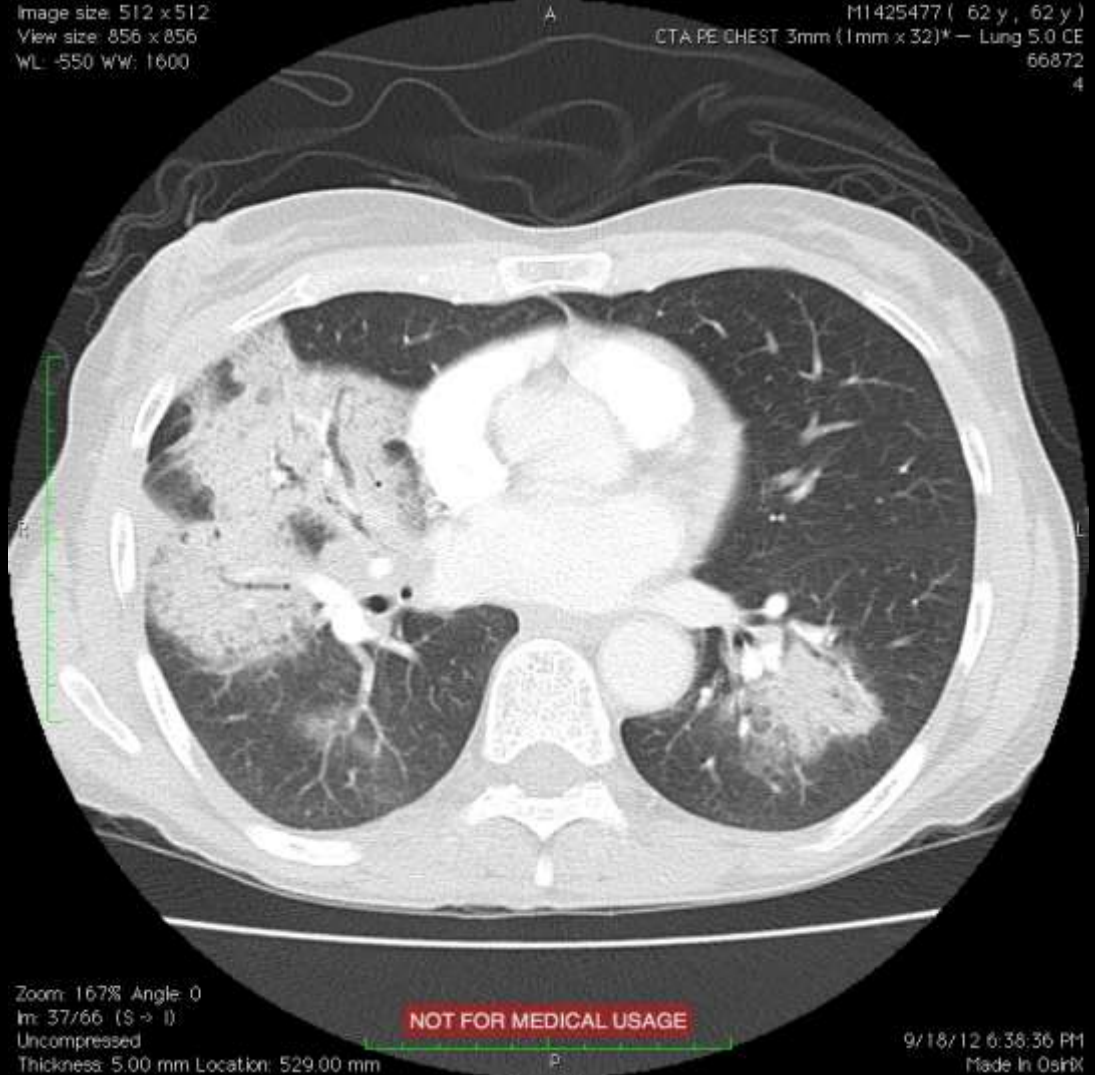
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 37/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 529.00 mm

NOT FOR MEDICAL USAGE

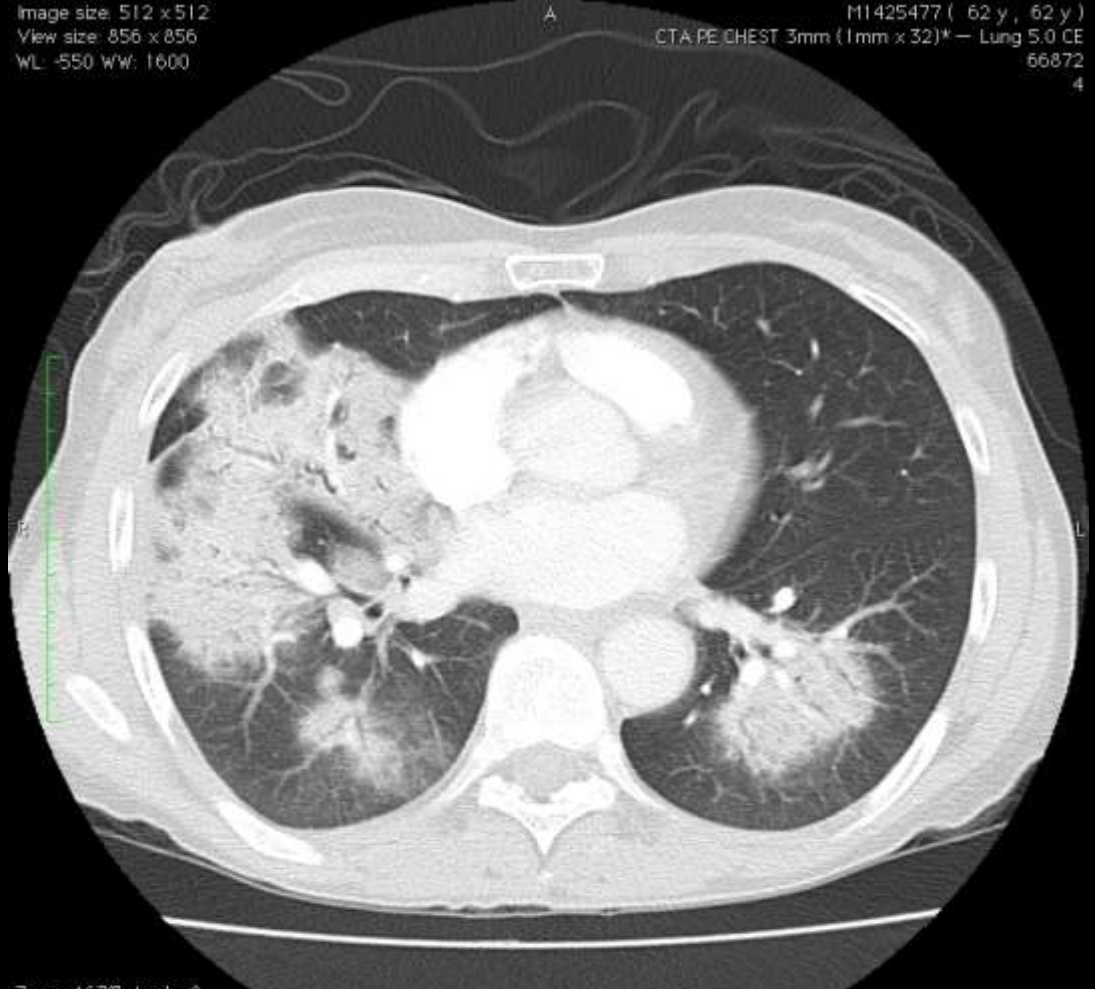
9/18/12 6:38:36 PM
Made in Ostrix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872

4



Zoom: 167% Angle: 0
Im: 38/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 524.00 mm

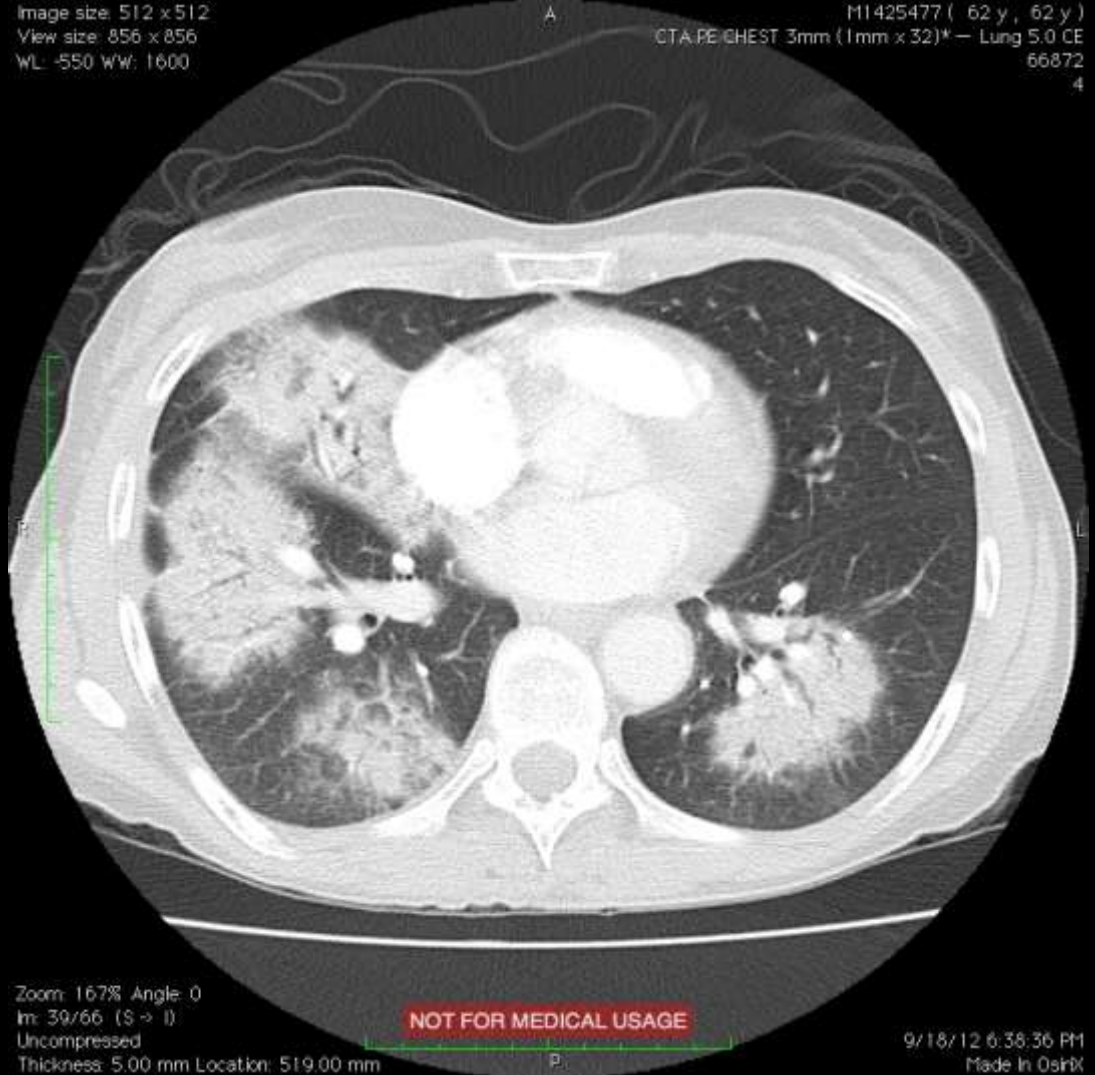
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Ostrix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA-PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 39/66 (S - I)
Uncompressed
Thickness: 5.00 mm Location: 519.00 mm

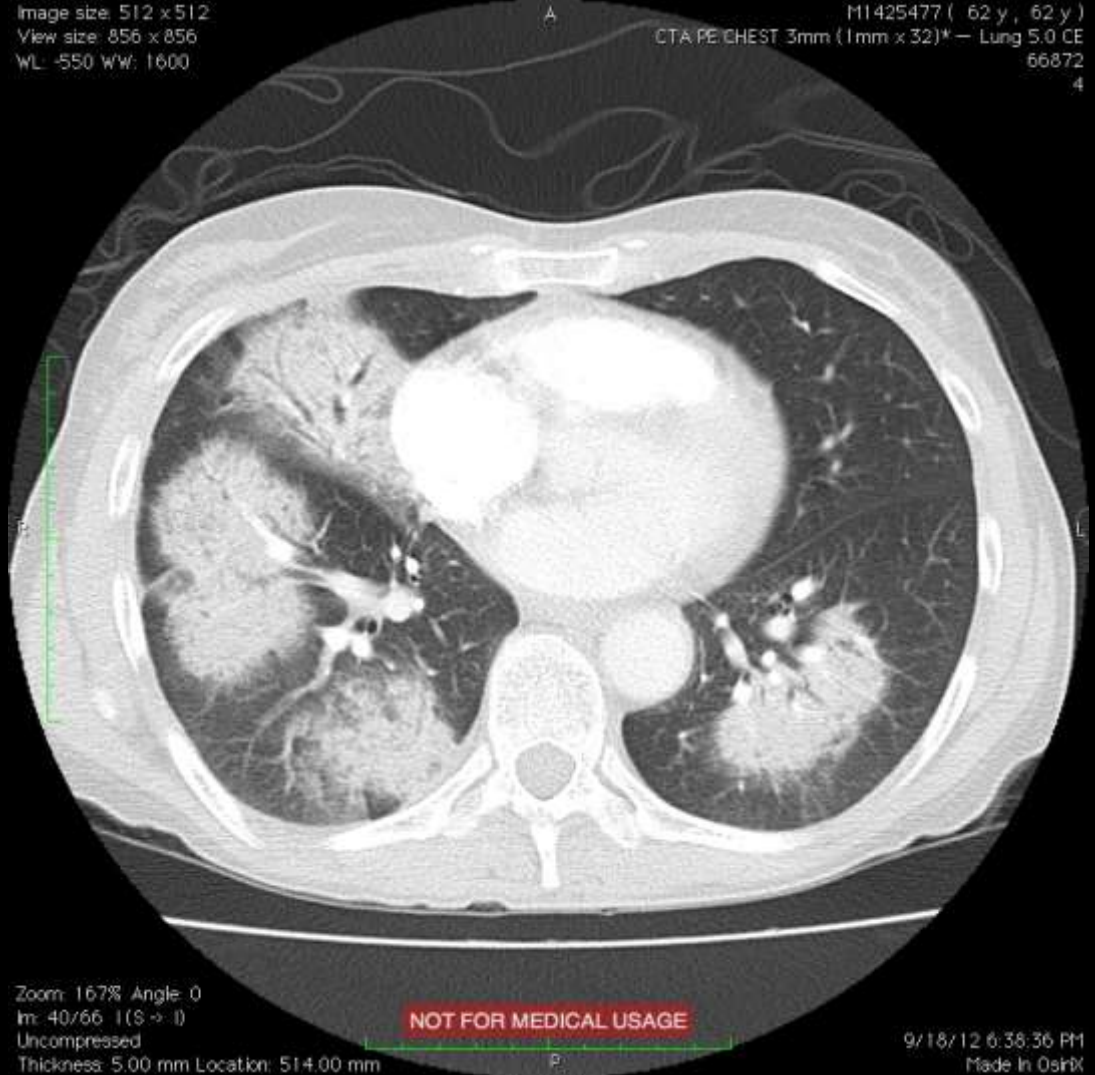
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made In OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 40/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 514.00 mm

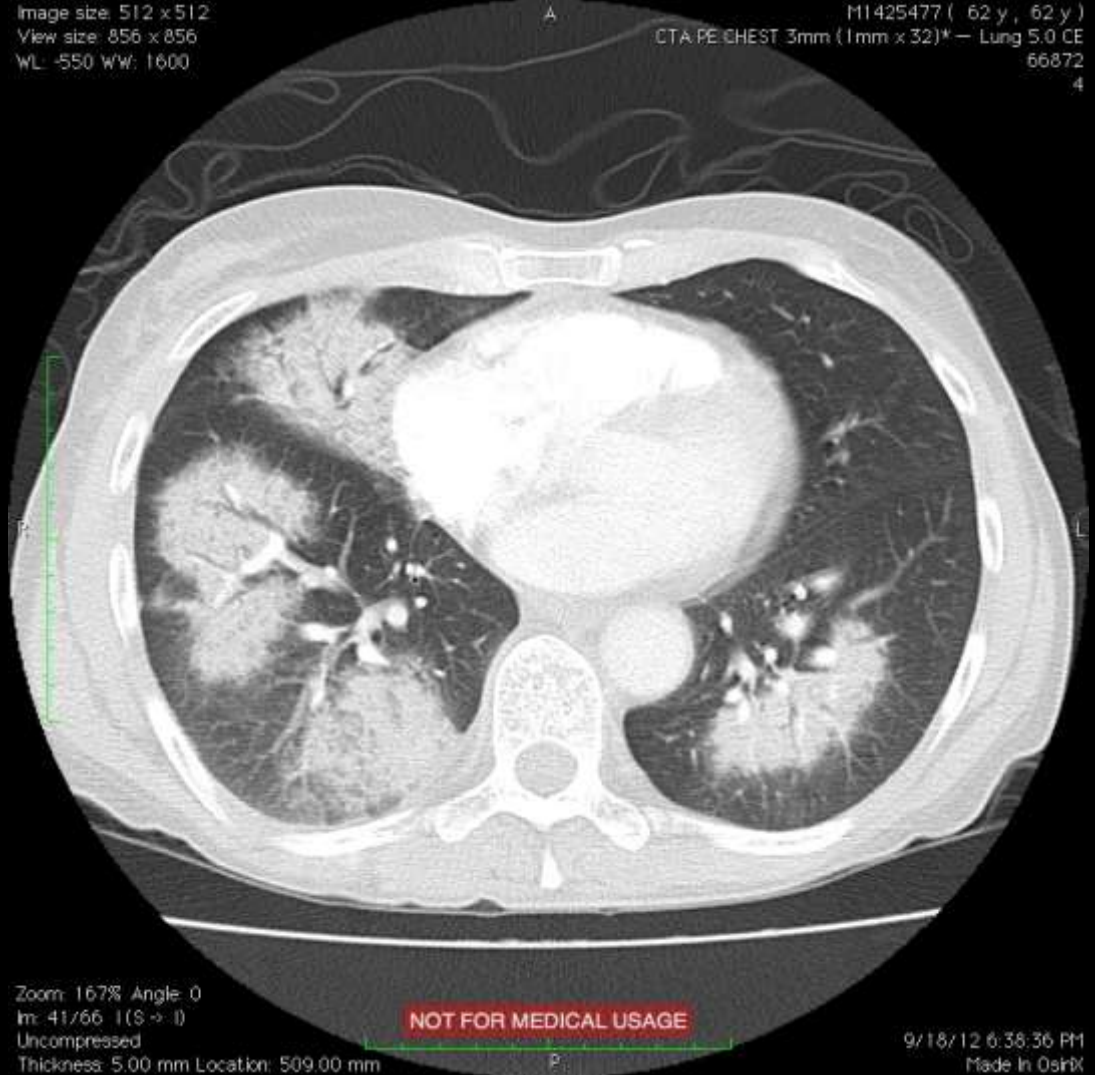
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 41/66 I(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 509.00 mm

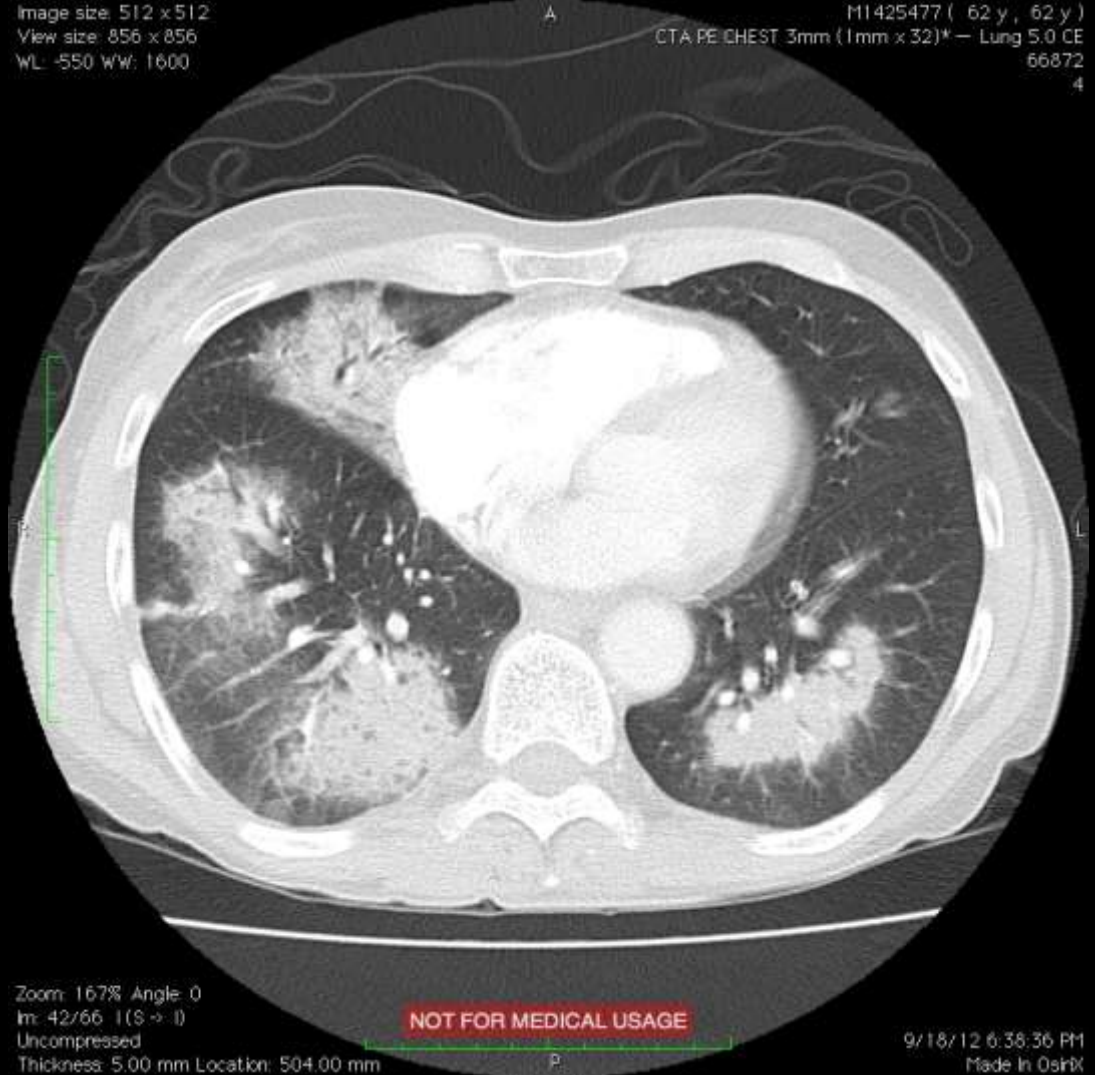
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
Im: 42/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 504.00 mm

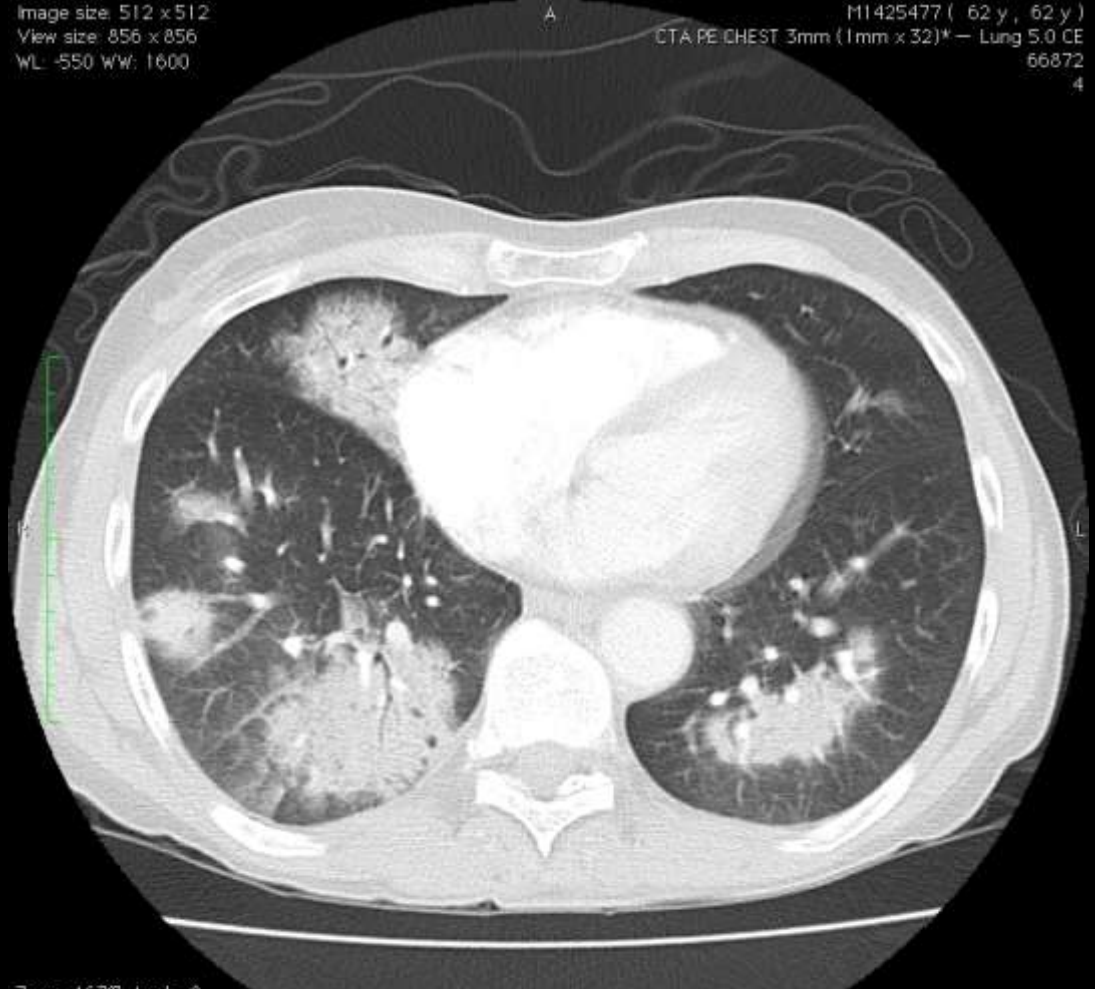
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 43/66 I(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 499.00 mm

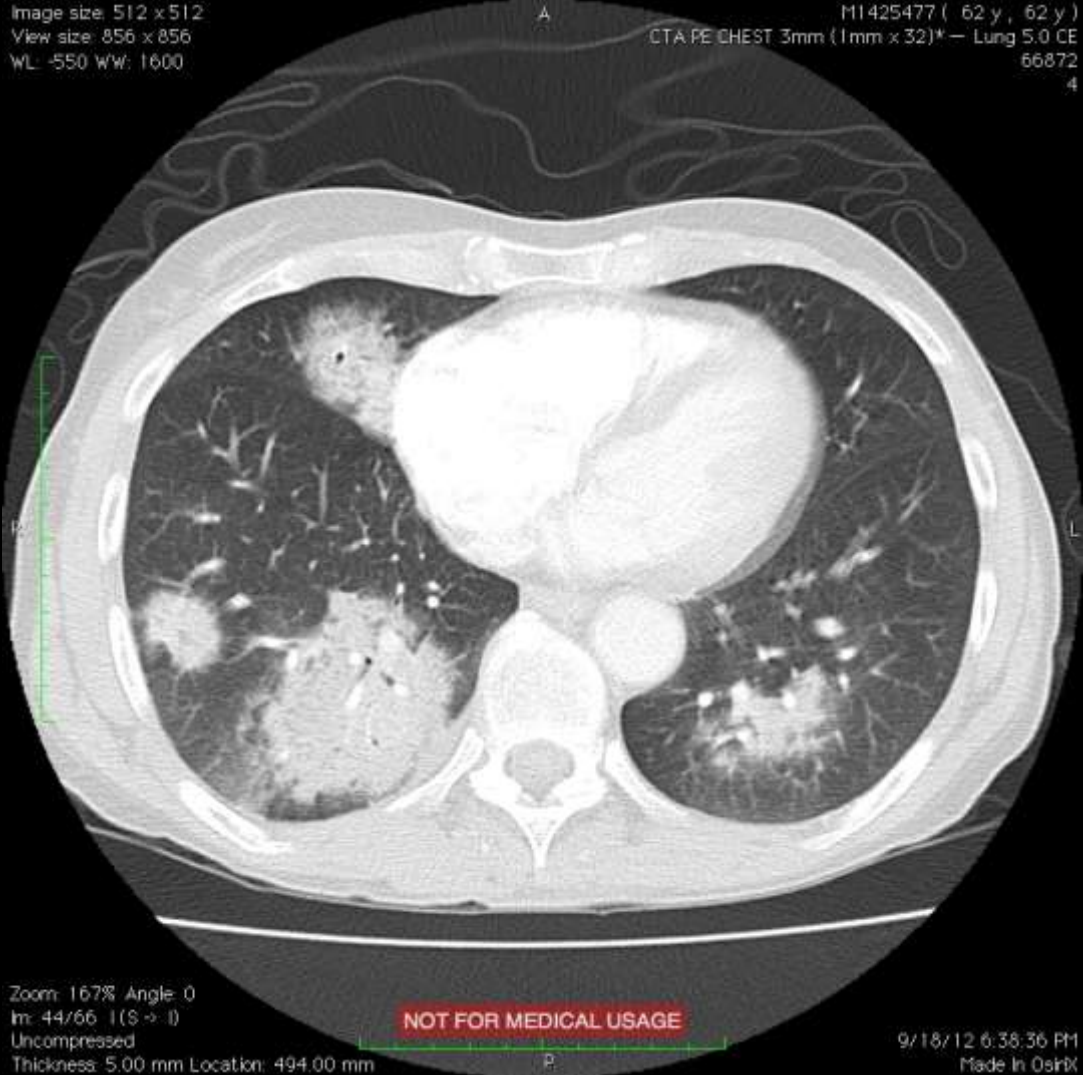
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 44/66 I(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 494.00 mm

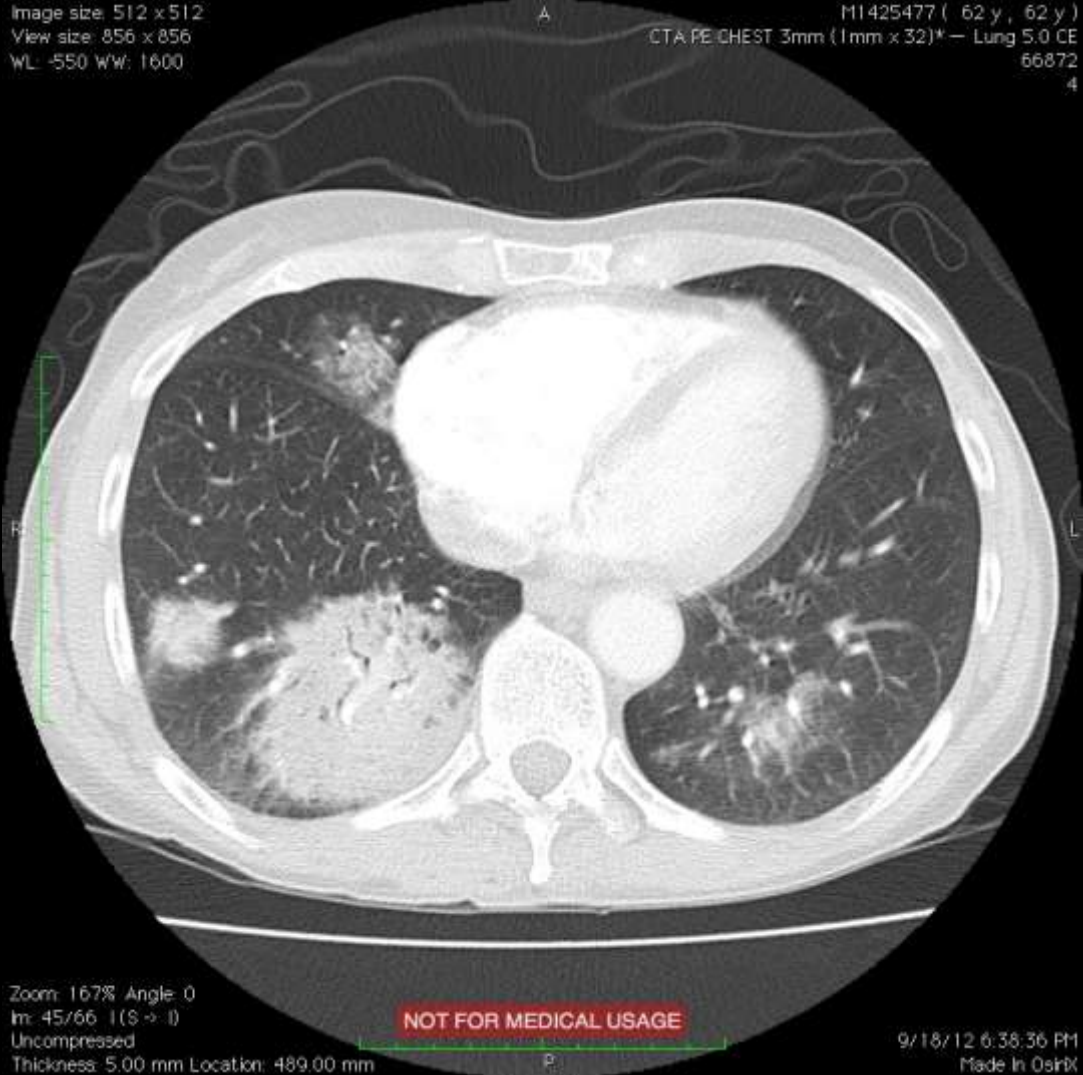
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 45/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 489.00 mm

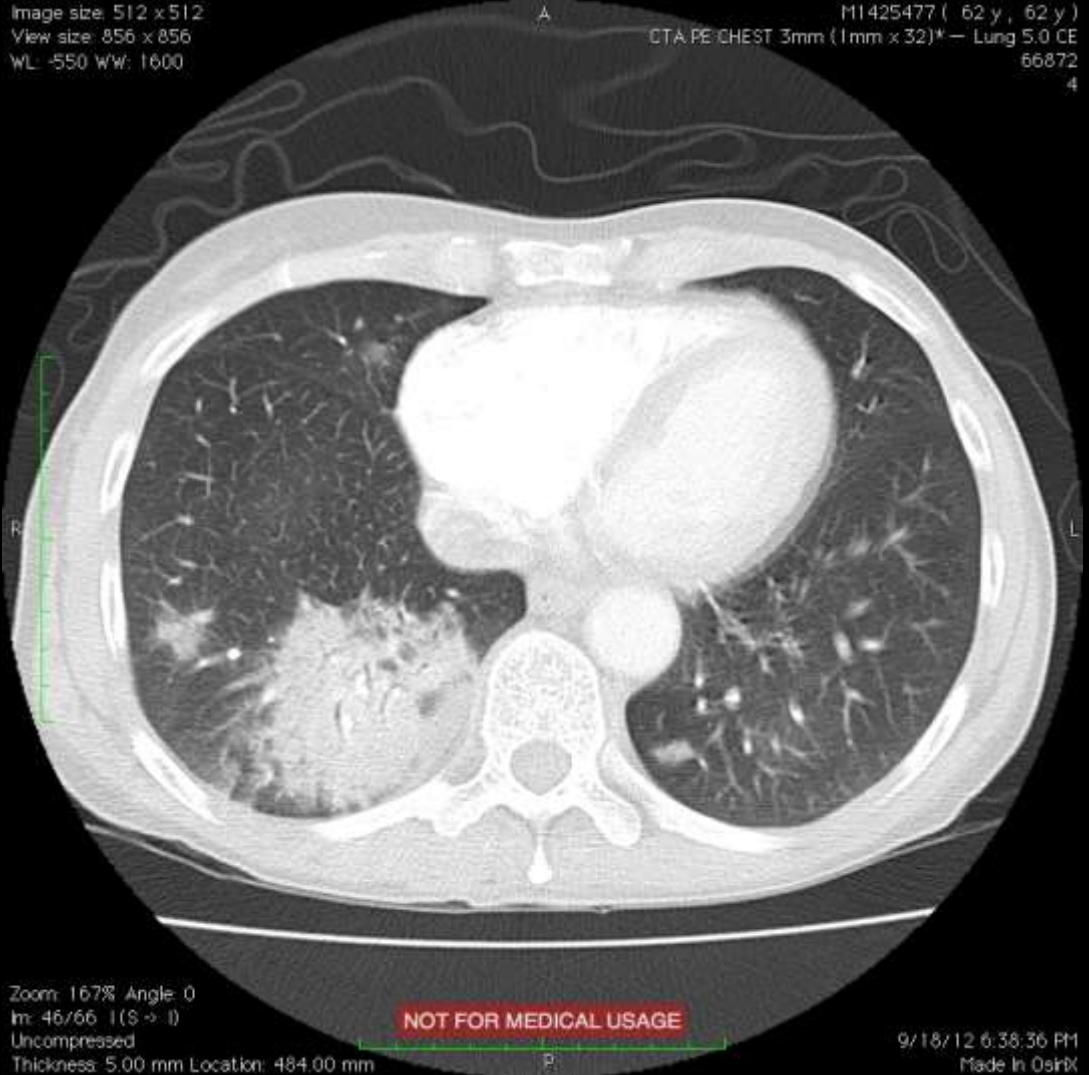
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 46/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 484.00 mm

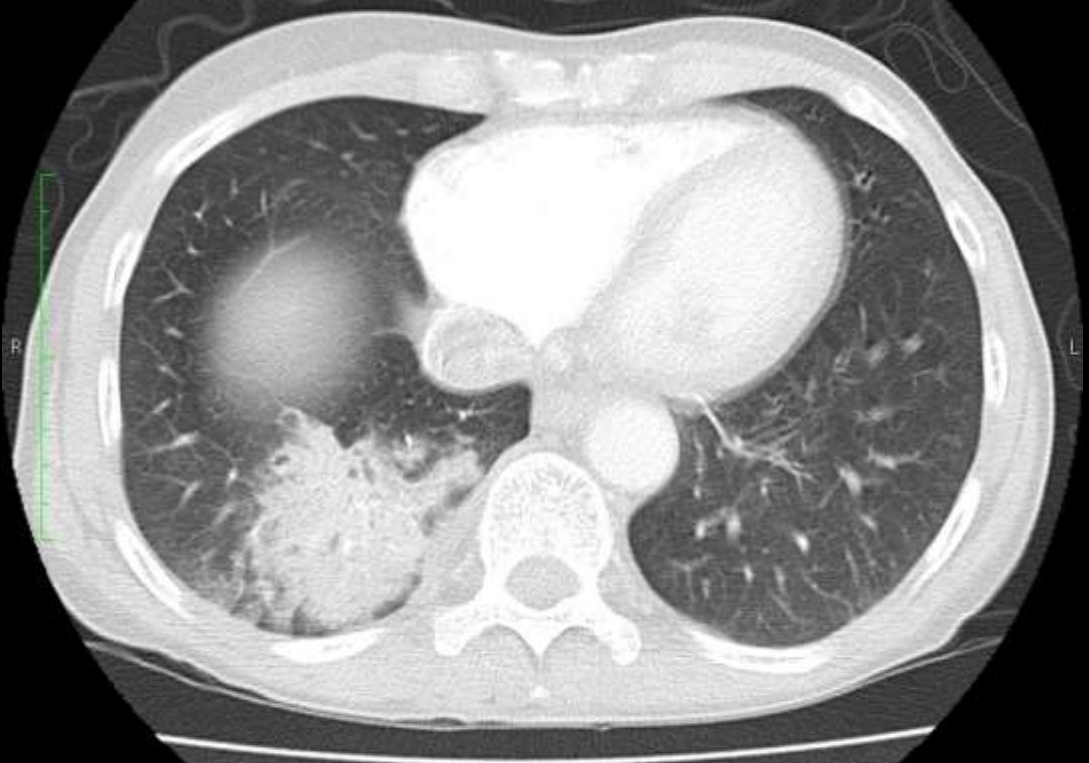
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 47/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 479.00 mm

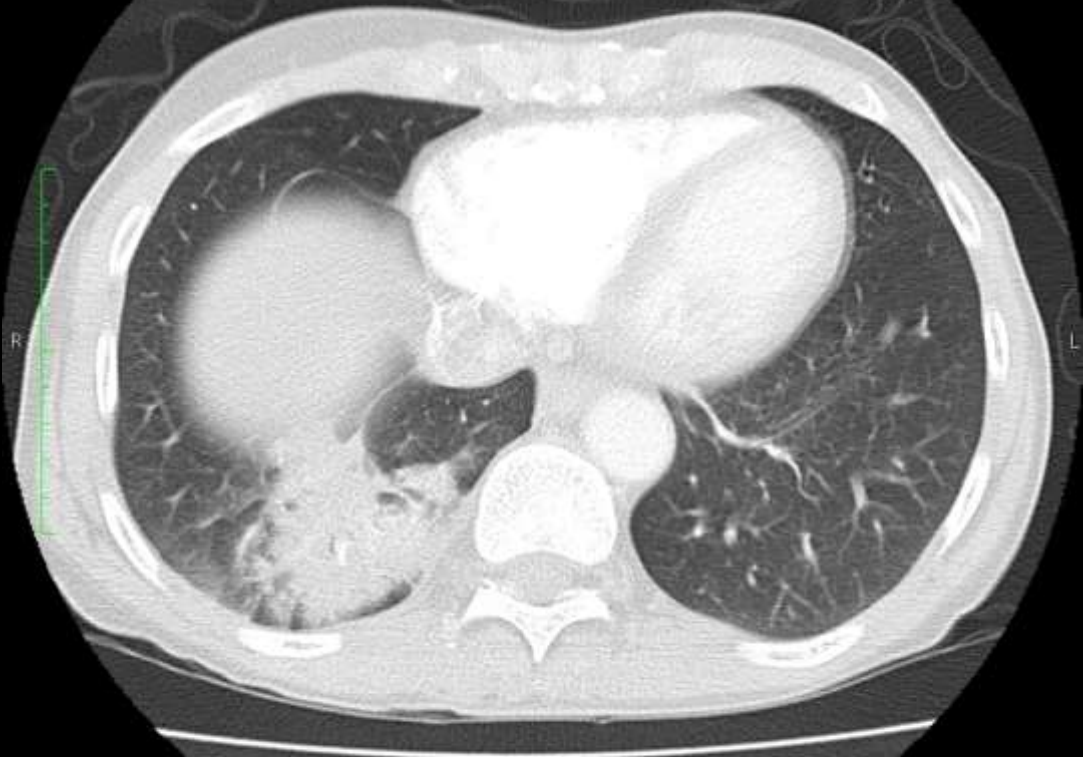
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 48/66 I(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 474.00 mm

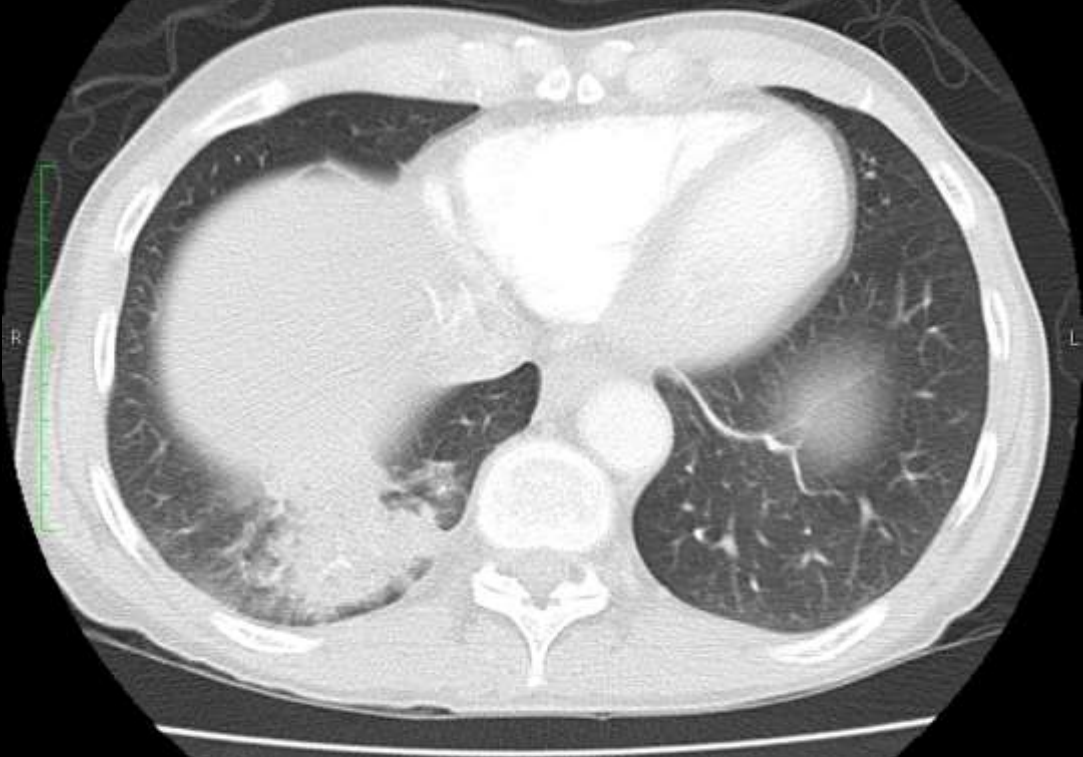
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: 550 Ww: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 49/66 I(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 469.00 mm

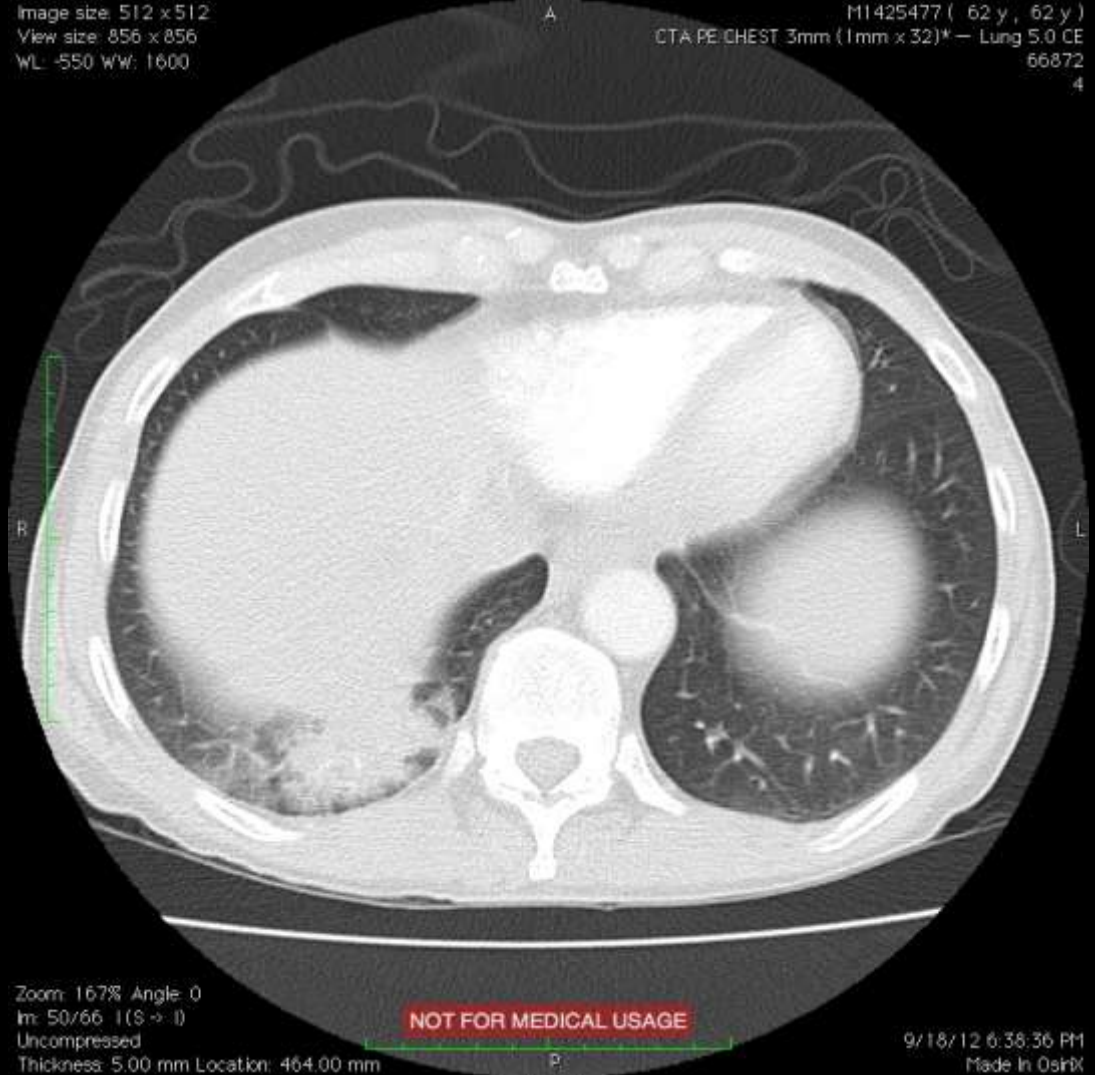
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in Osirix



Image size: 512 x 512
View size: 856 x 856
WL: 550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 50/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 464.00 mm

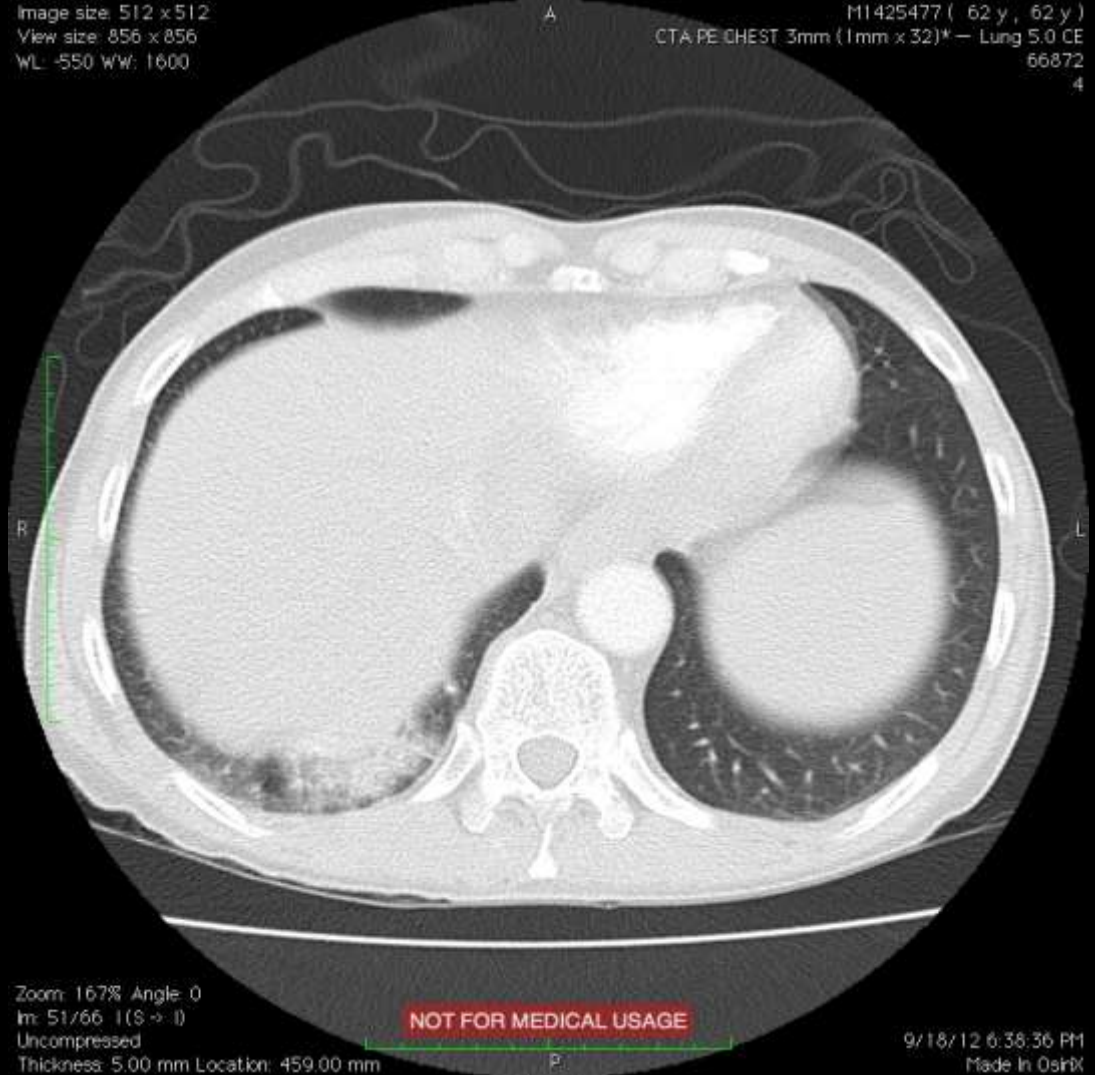
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 51/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 459.00 mm

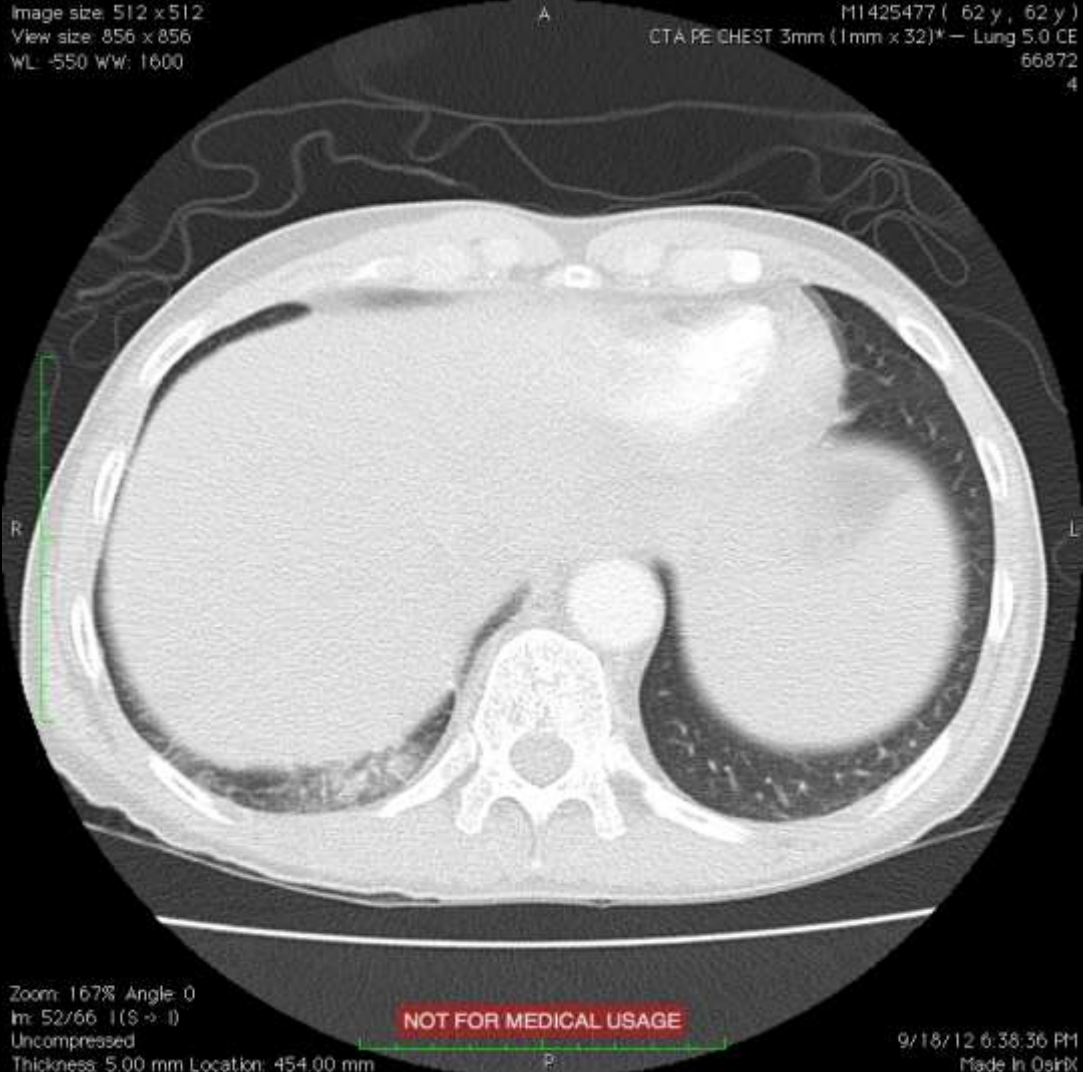
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y , 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 52/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 454.00 mm

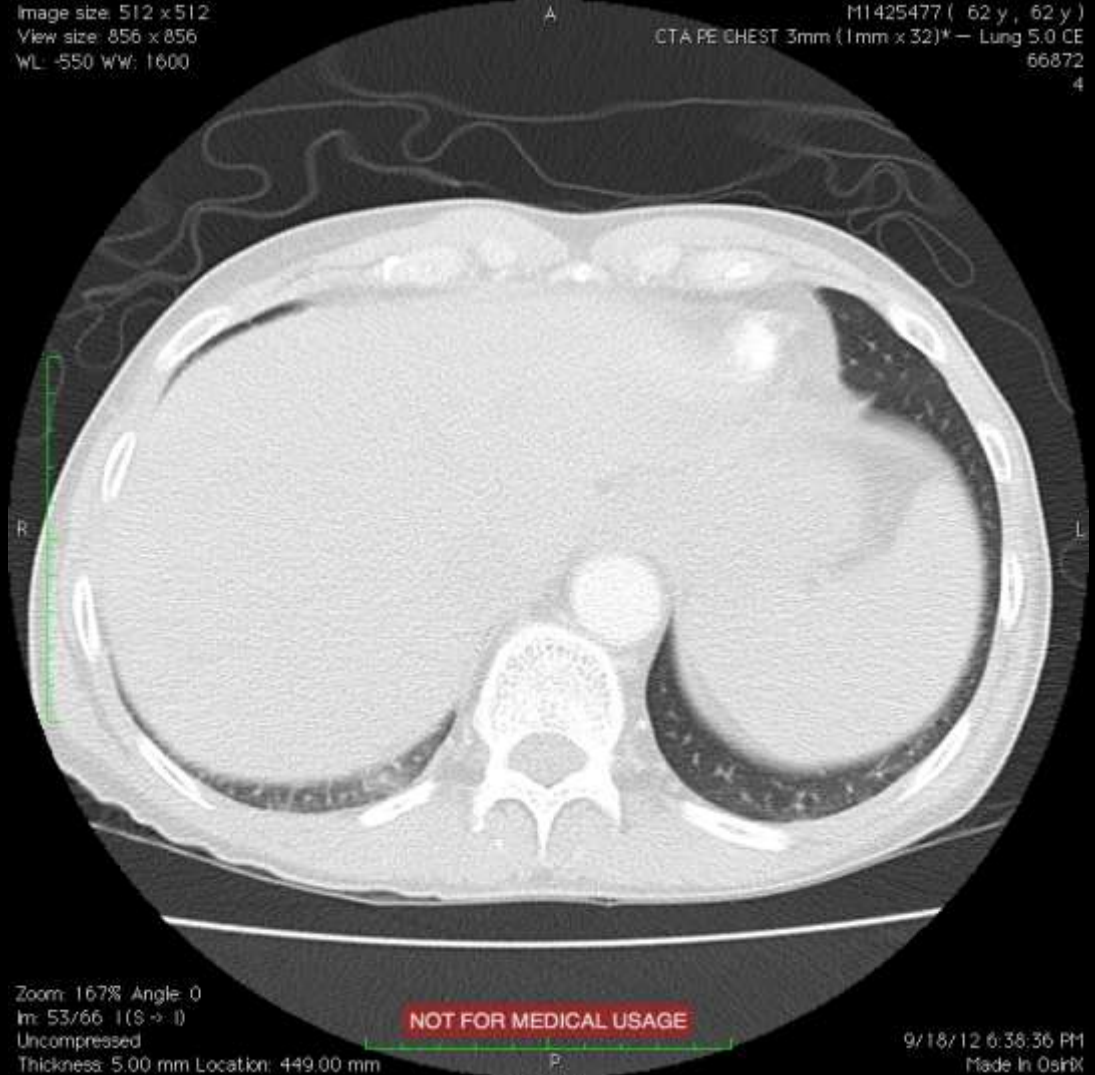
NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4



Zoom: 167% Angle: 0
In: 53/66 (S -> I)
Uncompressed
Thickness: 5.00 mm Location: 449.00 mm

NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX



Pattern Recognition

- Consolidation: Homogeneous increase in pulmonary parenchymal opacity that **obscures the margins of the vessels and the airway walls**
- Nonspecific sign
 - Blood, cells, fat, gastric contents, protein, pus, transudate, water...

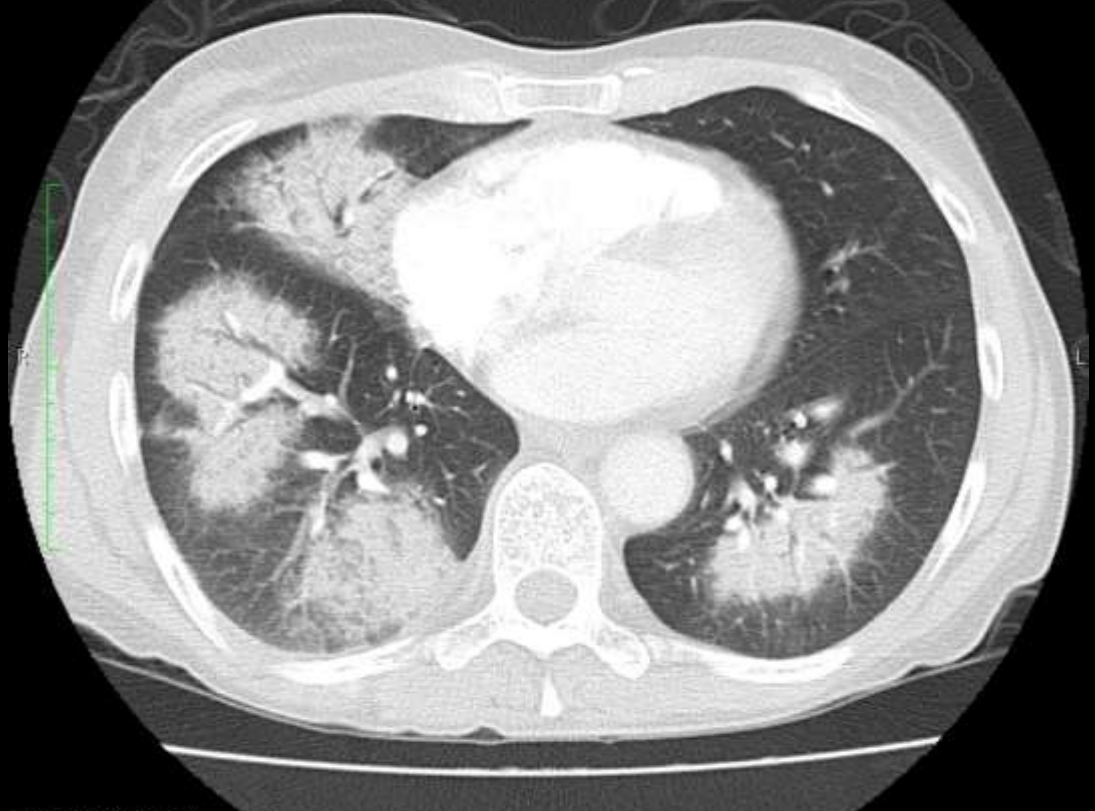
Spatial distribution

- Upper Zone: Hypersensitivity pneumonitis, sarcoidosis
- Mid and Lower Zone: Aspiration, pulmonary edema, NSIP, DIP, **Atelectasis**
- Peripheral: Organizing pneumonia, eosinophilic pneumonia, NSIP, DIP
- Central Zone: Hypersensitivity pneumonitis, diffuse alveolar hemorrhage, Pulmonary alveolar proteinosis, pulmonary edema, aspiration

Image size: 512 x 512
View size: 856 x 856
WL: -550 WW: 1600

M1425477 (62 y, 62 y)
CTA PE CHEST 3mm (1mm x 32)* - Lung 5.0 CE
66872
4

What do you think?



Zoom: 167% Angle: 0
Im: 41/66 1(S -> I)
Uncompressed
Thickness: 5.00 mm Location: 509.00 mm

NOT FOR MEDICAL USAGE

9/18/12 6:38:36 PM
Made in OshX

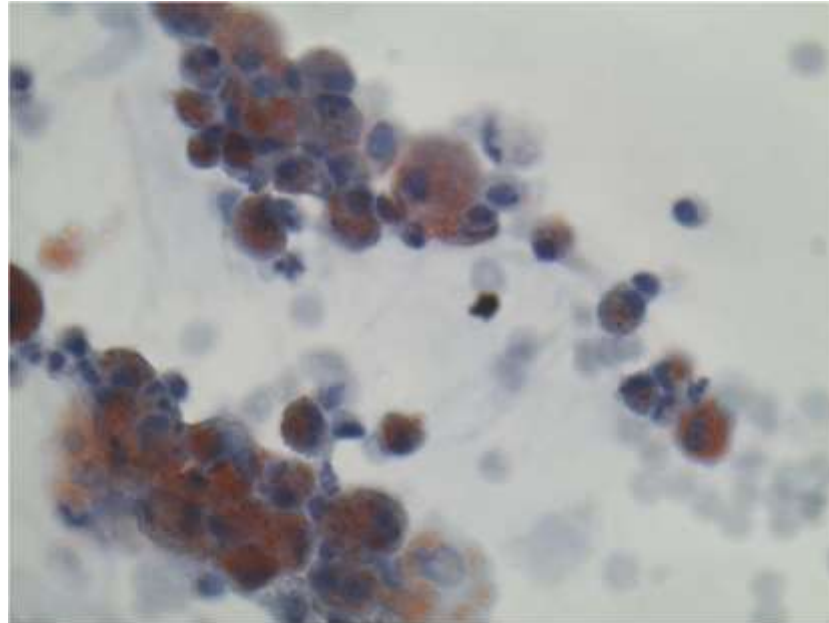


On further interview...

- She revealed that she had extremely dry lips after her biking trip, using $\frac{1}{4}$ container of Vaseline daily on her lips.



Bronchoalveolar lavage...



Diagnosis...

Exogenous Lipoid Pneumonia

- Lipid aspiration fails to trigger cough reflex.
- Subsequent ciliary dysfunction.
- Animal fat → hydrolyzed to free fatty acids triggering more severe local inflammatory response relative to vegetable oils.

History is key...

CASE REPORT

Exogenous lipid pneumonia caused by paraffin in an amateur fire breather

Respiratory Medicine 2010;114(2):218-221
Advance Access publication on 22 March 2010 doi:10.1093/rmp/114.2.218

Paraffin is a high molecular weight alkane hydrocarbon.

Cases described among 'fire eaters'...

An Unexpected Consequence of Electronic Cigarette Use

Lindsay McCauley, DO, Catherine Markin, MD, FCCP, and Danielle Hosmer, MD

Vegetable glycerin is often added to the liquid nicotine solutions in e-cigarettes to make the visual smoke when vaporized.

Squalene-induced exogenous lipid pneumonia in an infant

Eun Soo Kim,¹ Kyung Won Kim,¹ Tae Won Song,² Sang Ho Cho,¹ Myung-Joon Kim⁴, Kyu-Earn Kim¹ and Myung Hyun Sohn¹

Squalene is type of oil derived from shark liver.

Ingested widely in Asia as a folk remedy.

Also used extensively in cosmetics.

ST Postgraduate Education Corner

CHEST IMAGING AND PATHOLOGY FOR CLINICIANS

Of Lungs, Lipids, and Lollipops

Susan K. Mathai, MD, Anne N. Balabanitz, MD, Robert J. Mawzy, MD, PhD, Paul Deterbeck, MD, FCCP, and Erik L. Osterg, MD, PhD

Magnesium stearate used in fentanyl lollipops

Case 3: Chief Complaint

68-year-old woman referred
for 3 years of progressive
dyspnea on exertion

History of Present Illness

- In 2021 noted subtle but gradually progressive DOE
- Occasional dry cough
- Also prominent fatigue

Past Medical History

PMH

- HTN
- Hypothyroidism
- Chronic back pain
- GERD

PSH

- Nissen fundoplication
- Multiple back surgeries
- Appendectomy

Medications

- HCTZ, amlodipine, lisinopril, morphine ER,

Family and Social History

SH:

- 13 pack-year tobacco history. No EtOH or other drugs.
- 3 cats, no other animals, swamp coolers, or hot tubs.
- Worked until 2005 as a hairdresser

FH: Non-contributory

Physical Exam

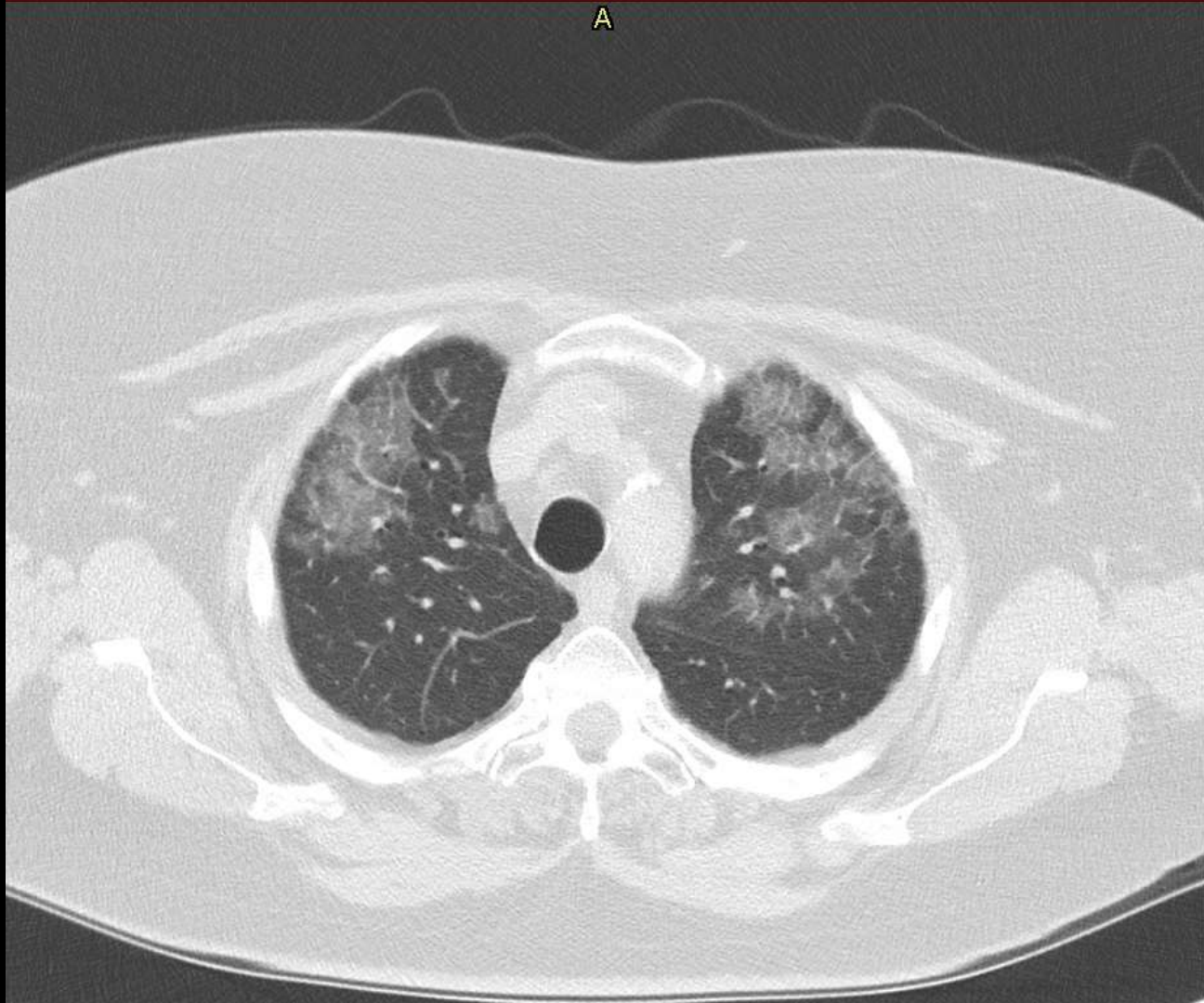
- VS: T 36.2° BP 163/101, P 84, R 18, SpO2 97% on 3 LPM
- Gen: Speaking full sentences, NAD.
- HEENT: No elevated JVP.
- CVS: RRR with no M/R/G. PMI not displaced.
- Lungs: **Faint bilateral late inspiratory rales at the mid lung fields.**
- Abd: BS+, non-tender, no masses.
- Ext: No edema, normal distal pulses.

A restrictive pattern was found on PFTs, prompting a CT scan...

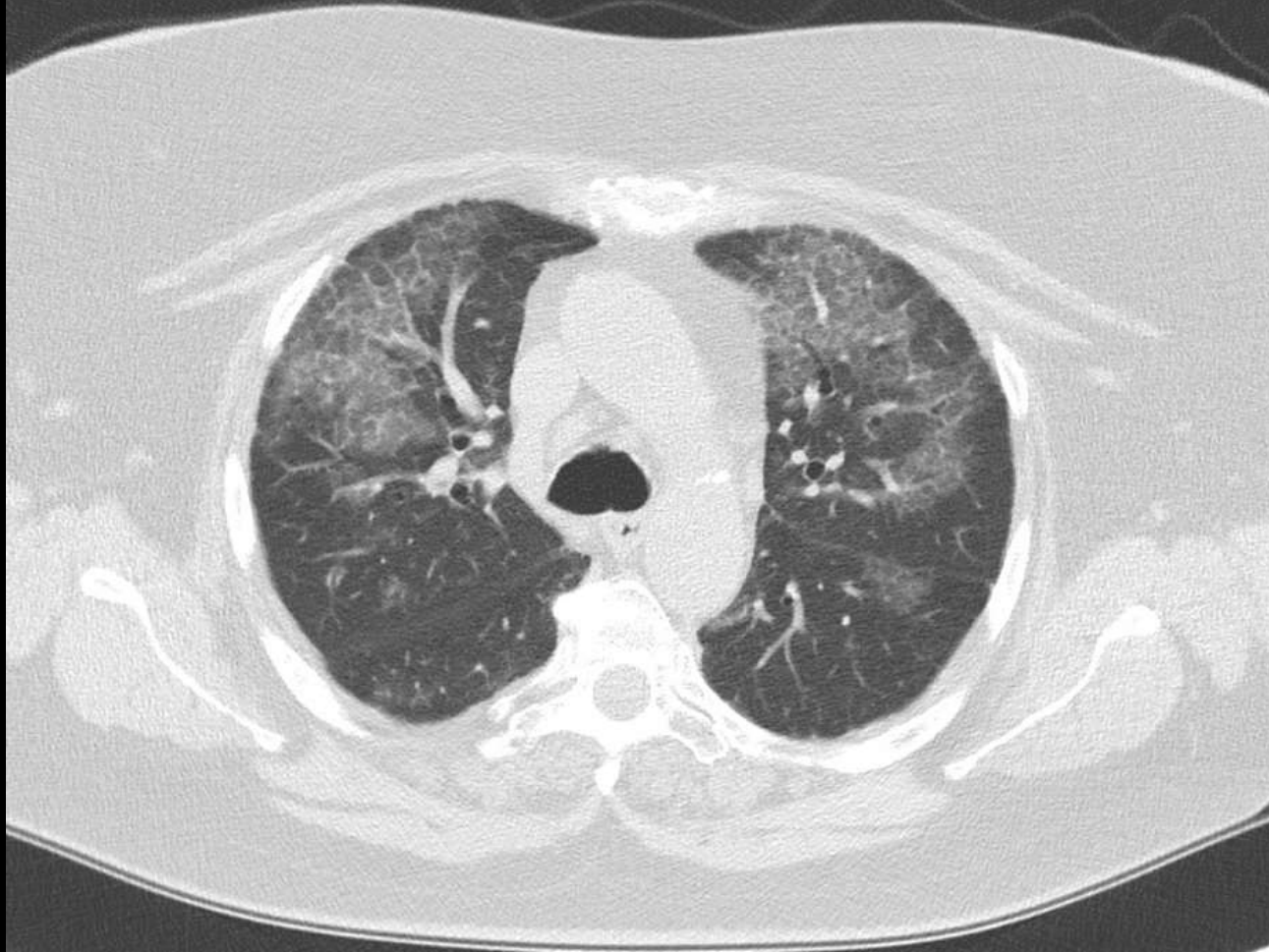
A



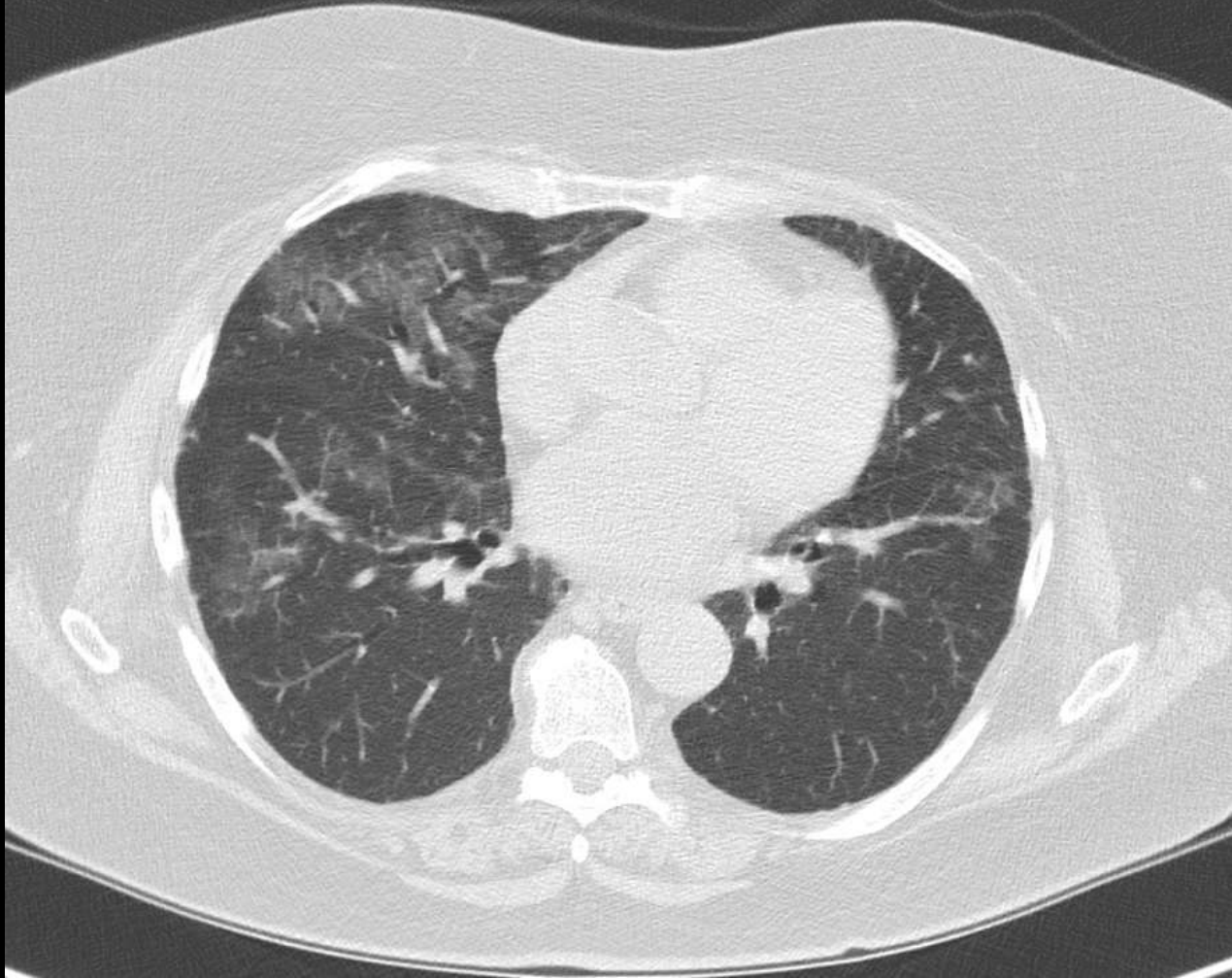
A



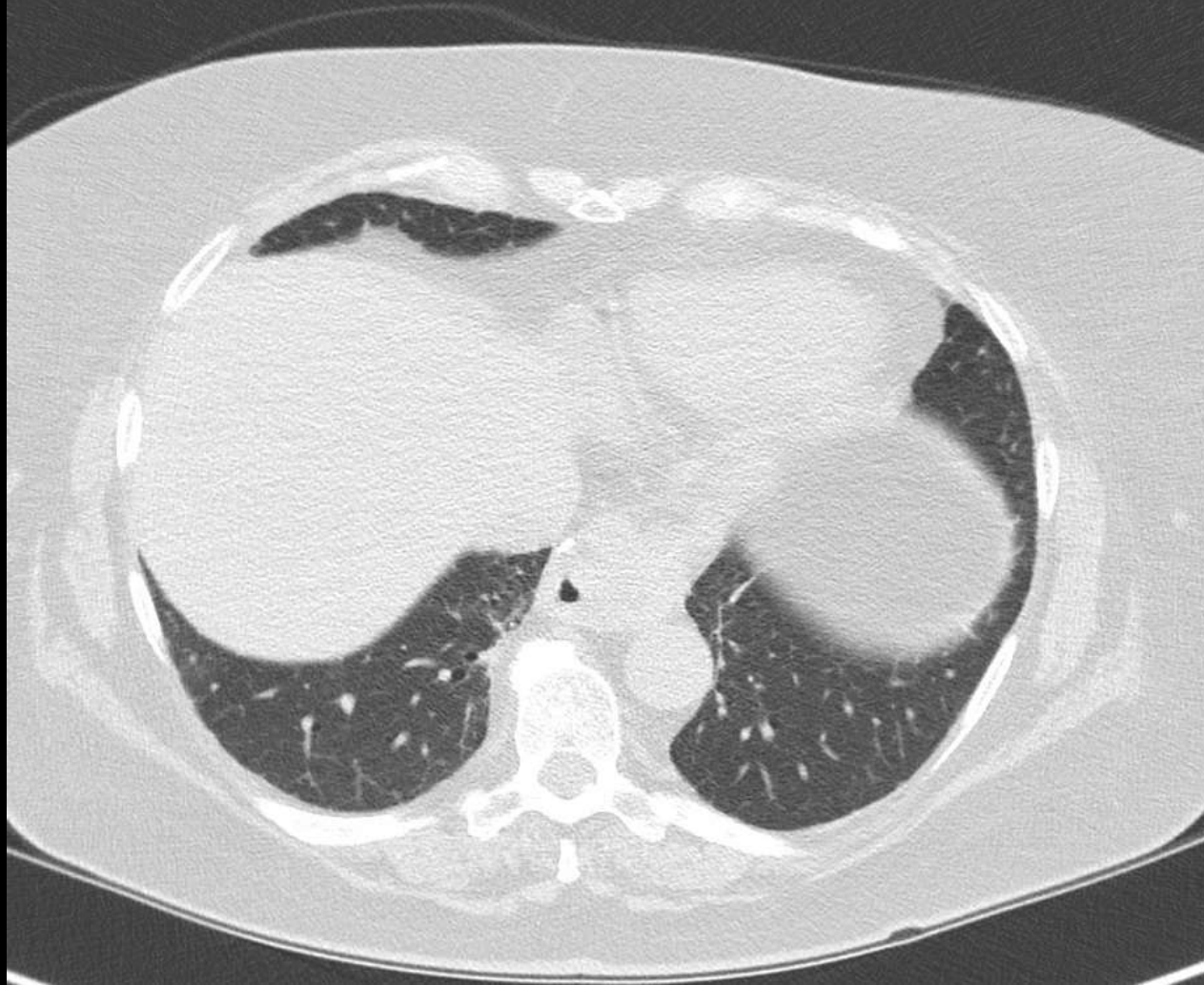
A



A



A



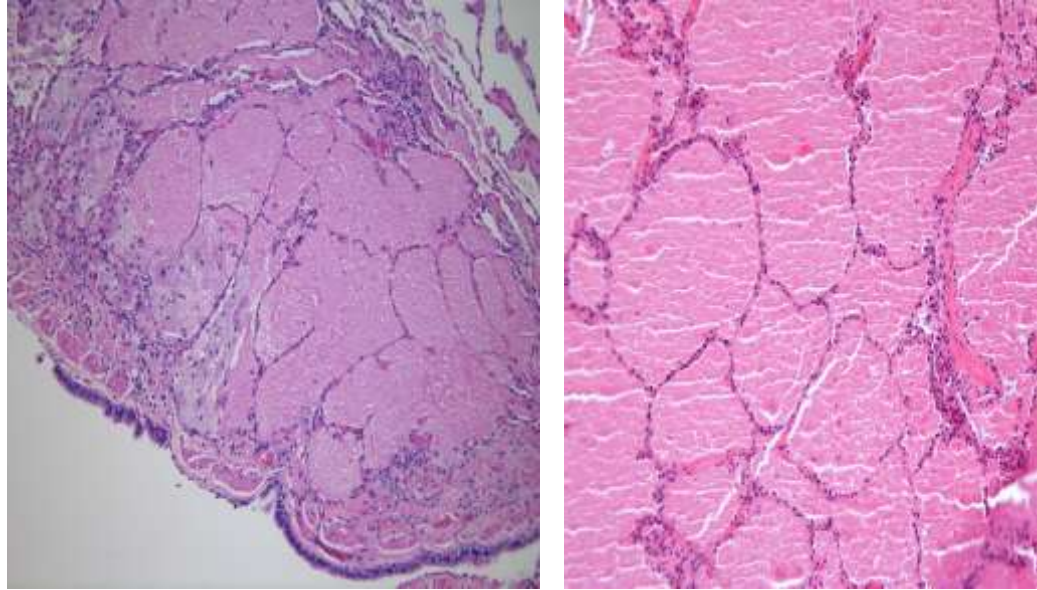
A



Spatial distribution

- Upper Zone: Hypersensitivity pneumonitis, sarcoidosis
- Mid and Lower Zone: Aspiration, pulmonary edema, NSIP, DIP, Atelectasis
- Peripheral: Organizing pneumonia, eosinophilic pneumonia, NSIP, DIP
- Central Zone: Hypersensitivity pneumonitis, diffuse alveolar hemorrhage, Pulmonary alveolar proteinosis, pulmonary edema, aspiration

VATS Biopsy



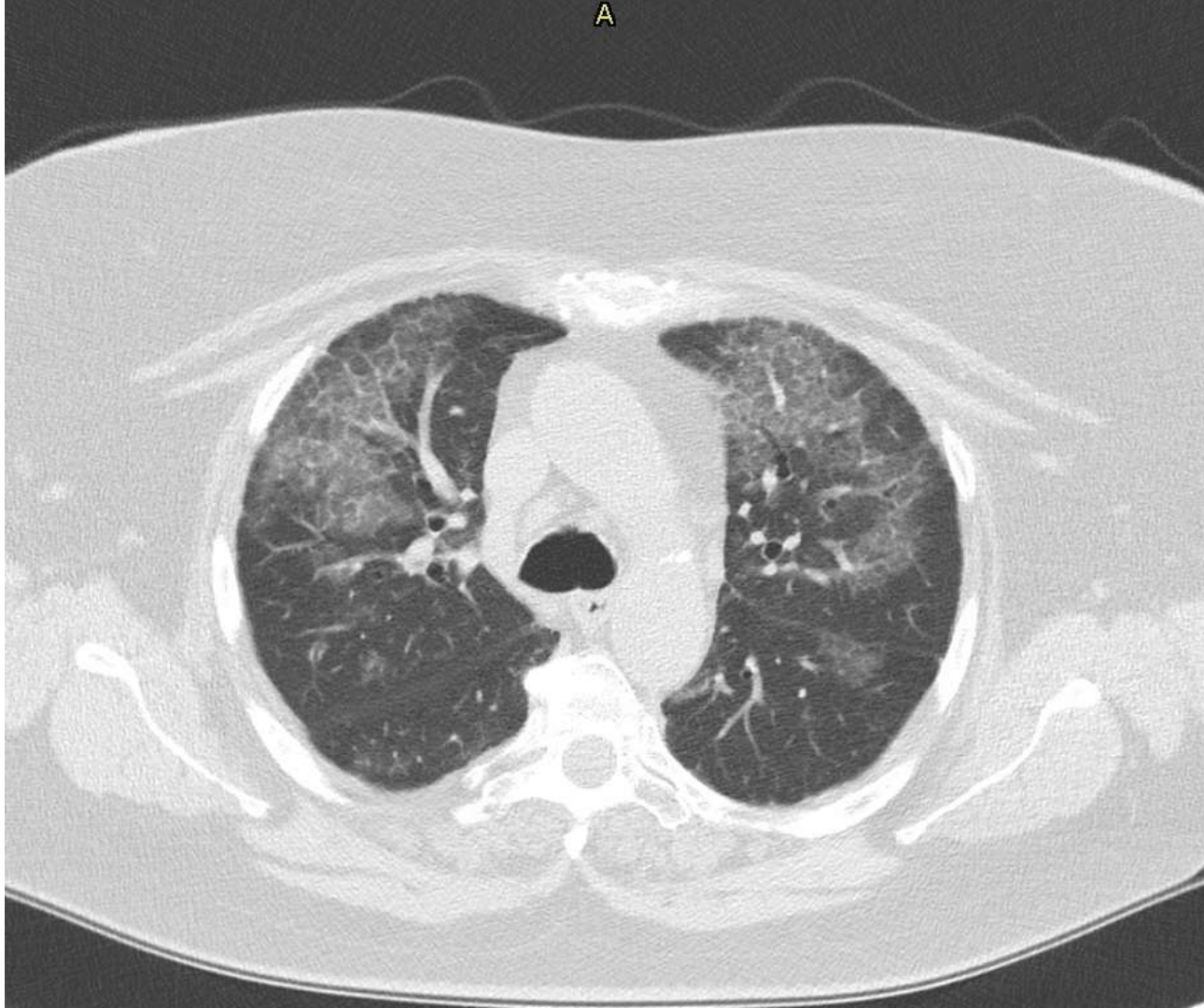
- Alveolar parenchyma showing **features of lipid pneumonia with accompanying focal alveolar surfactant congestion**
- Negative for malignancy

Clinical Course

- Extensive GI evaluation for lipid aspiration initiated

This is when we met...

A



Spatial distribution

- **Upper Zone: Hypersensitivity pneumonitis, sarcoidosis**
- **Mid and Lower Zone: Aspiration, pulmonary edema, NSIP, DIP, Atelectasis**
- **Peripheral: Organizing pneumonia, eosinophilic pneumonia, NSIP, DIP**
- **Central Zone: Hypersensitivity pneumonitis, diffuse alveolar hemorrhage, Pulmonary alveolar proteinosis, pulmonary edema, aspiration**

The diagnosis

- GM-0
- Auto
- antib
- The p
- good



positive
variance
with

Take aways

- **History is usually the key** – take the time for thorough exposure and occupational histories
- Accurately determining the **acuity** and the **distribution** of radiologic infiltrates will help narrow your differential
- **Talk with your radiologist** to meld the clinical history with the radiological findings

Thank You

robinjef@ohsu.edu

