

The University of Jordan
Faculty Of Medicine



Radiology of Cardiovascular system

Dr. Ahmed Salman

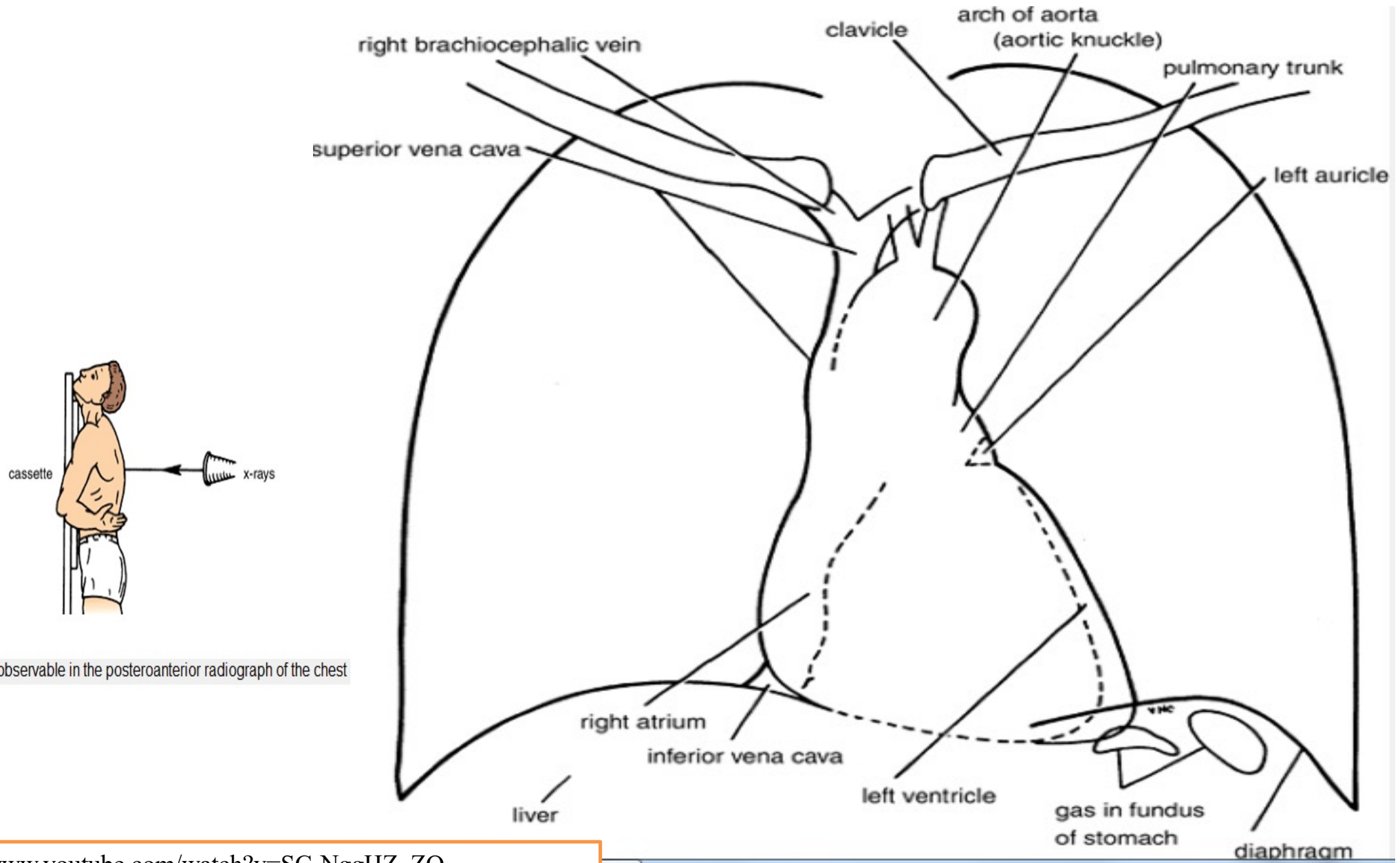
Associate professor of anatomy & embryology

X ray



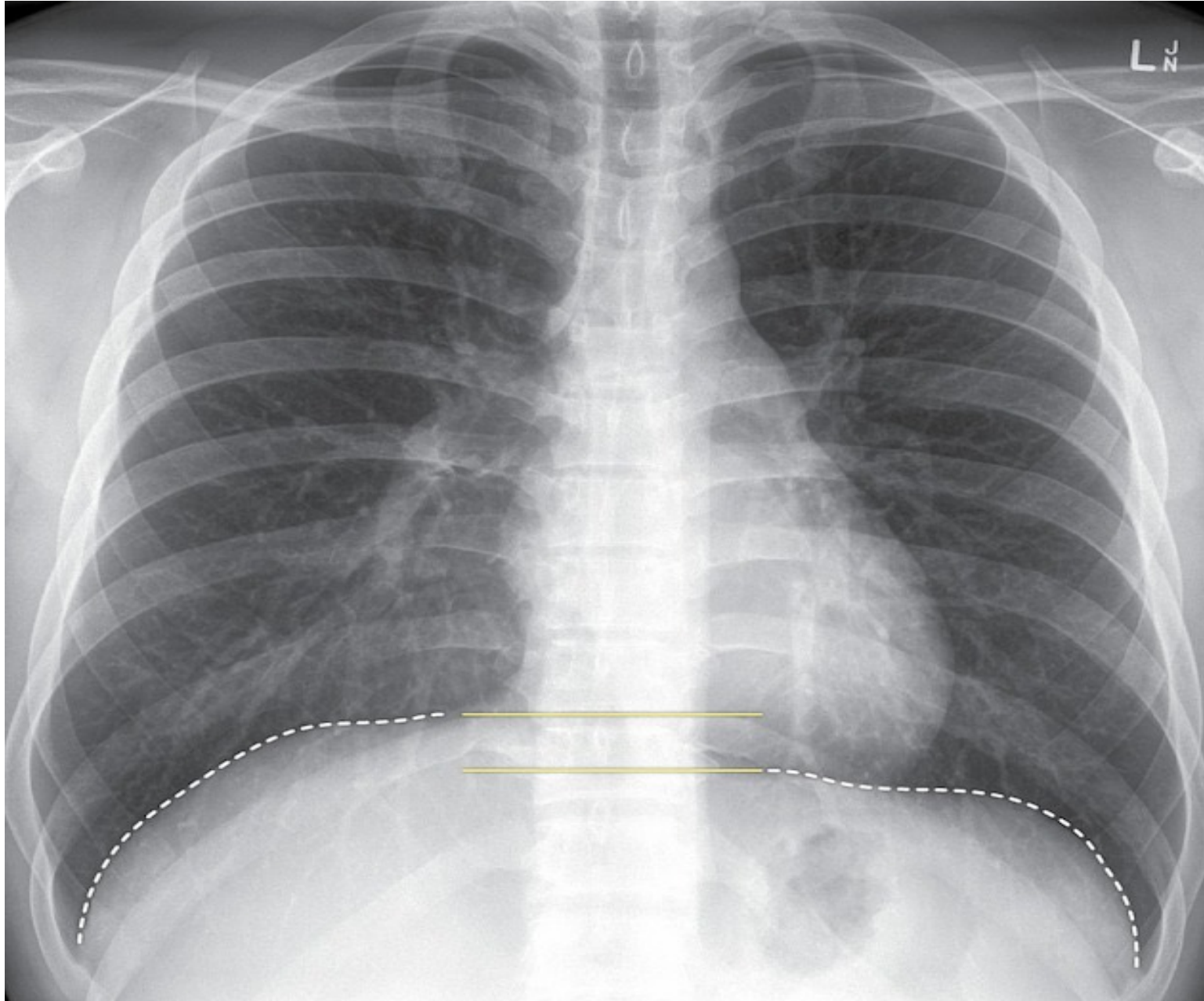
Chest X-ray



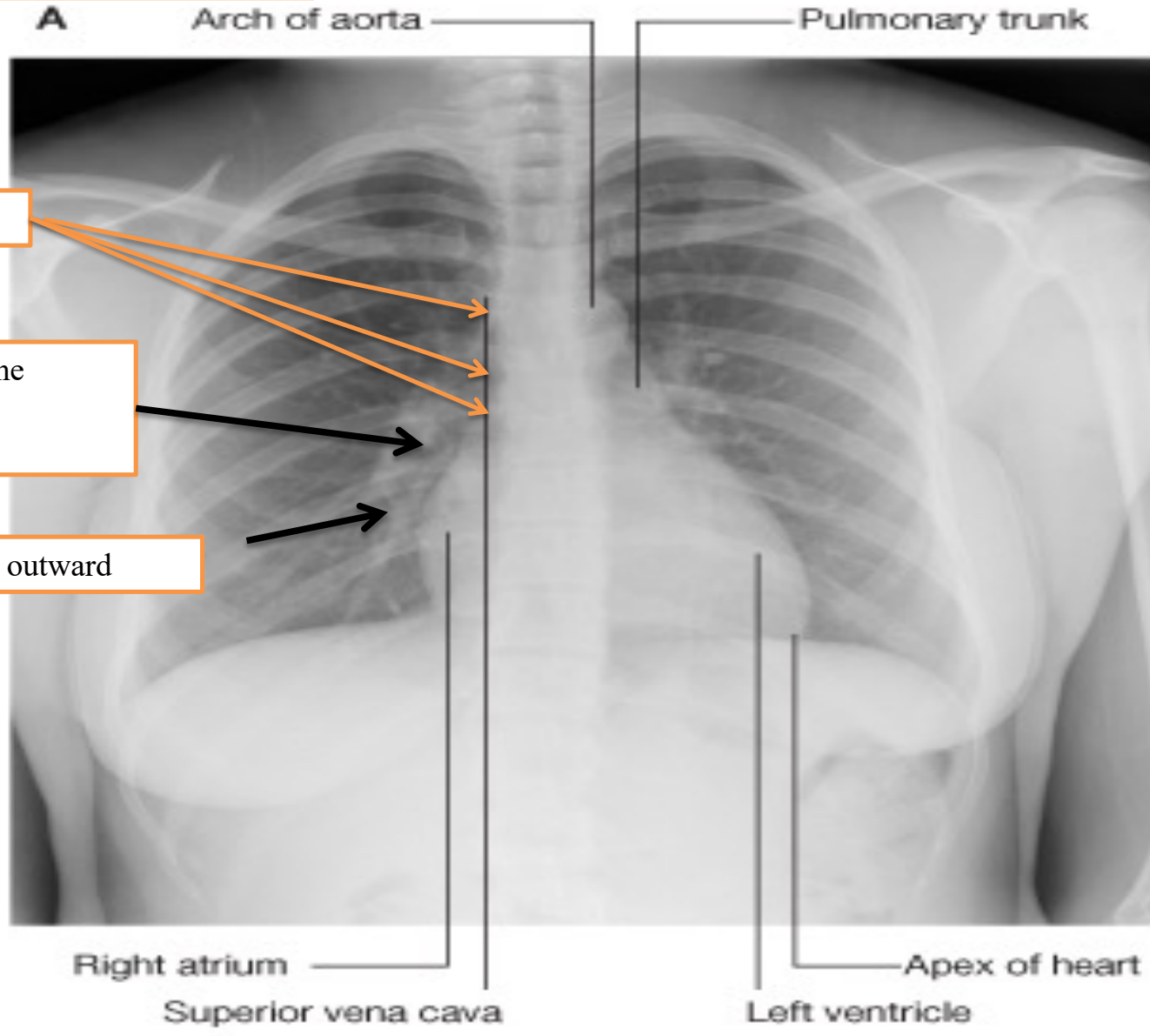


Main features observable in the posteroanterior radiograph of the chest

https://www.youtube.com/watch?v=SC-NggHZ_ZQ



THE RIGHT CONTOUR OF THE CARDIAC X-RAY



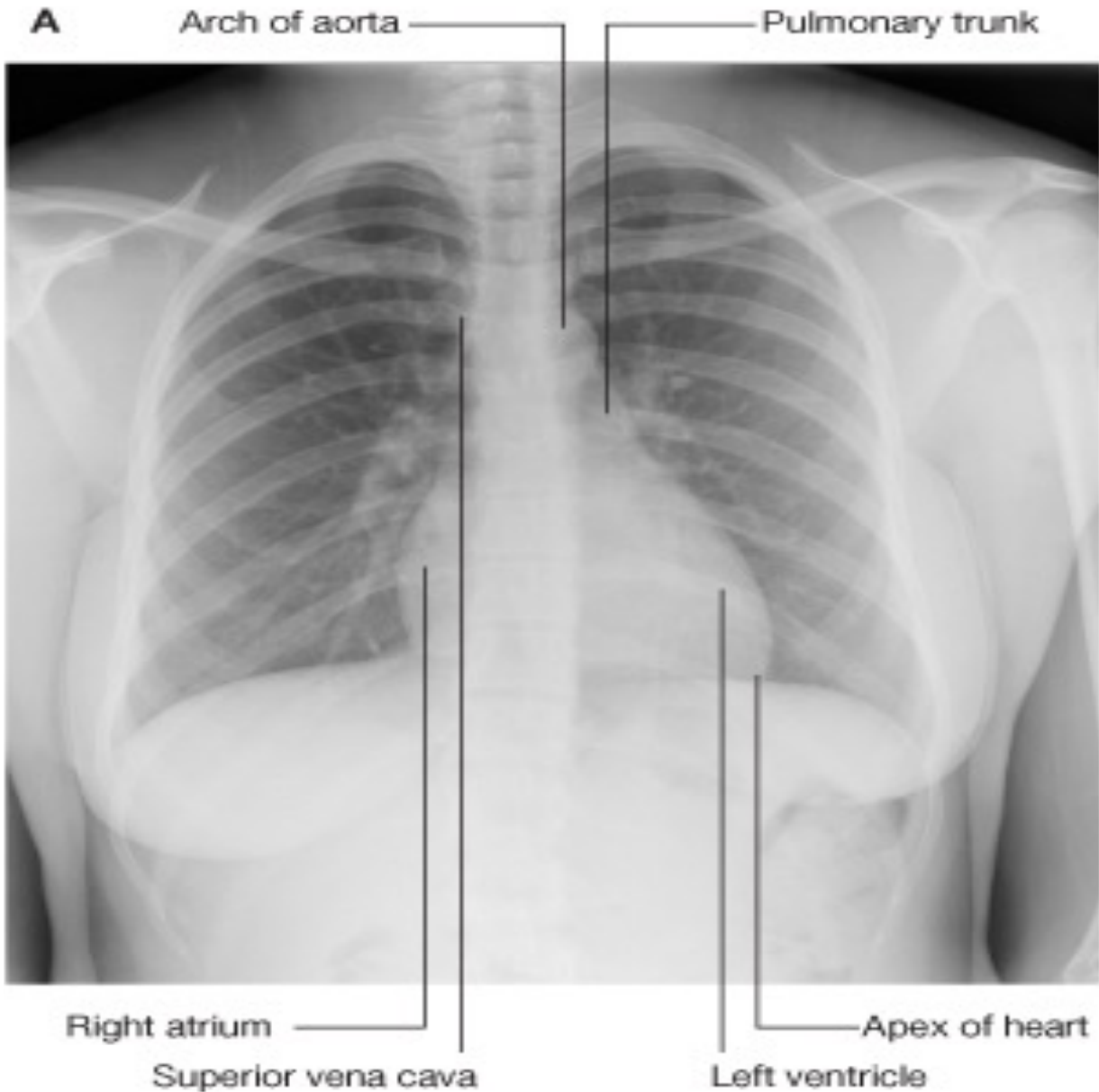
The upper half of the right contour is formed by the superior vena cava (SVC)

is straight

The angle between these two contours represents the superior aspect of the right atrium

the lower half by the lateral wall of the right atrium

bulges outward



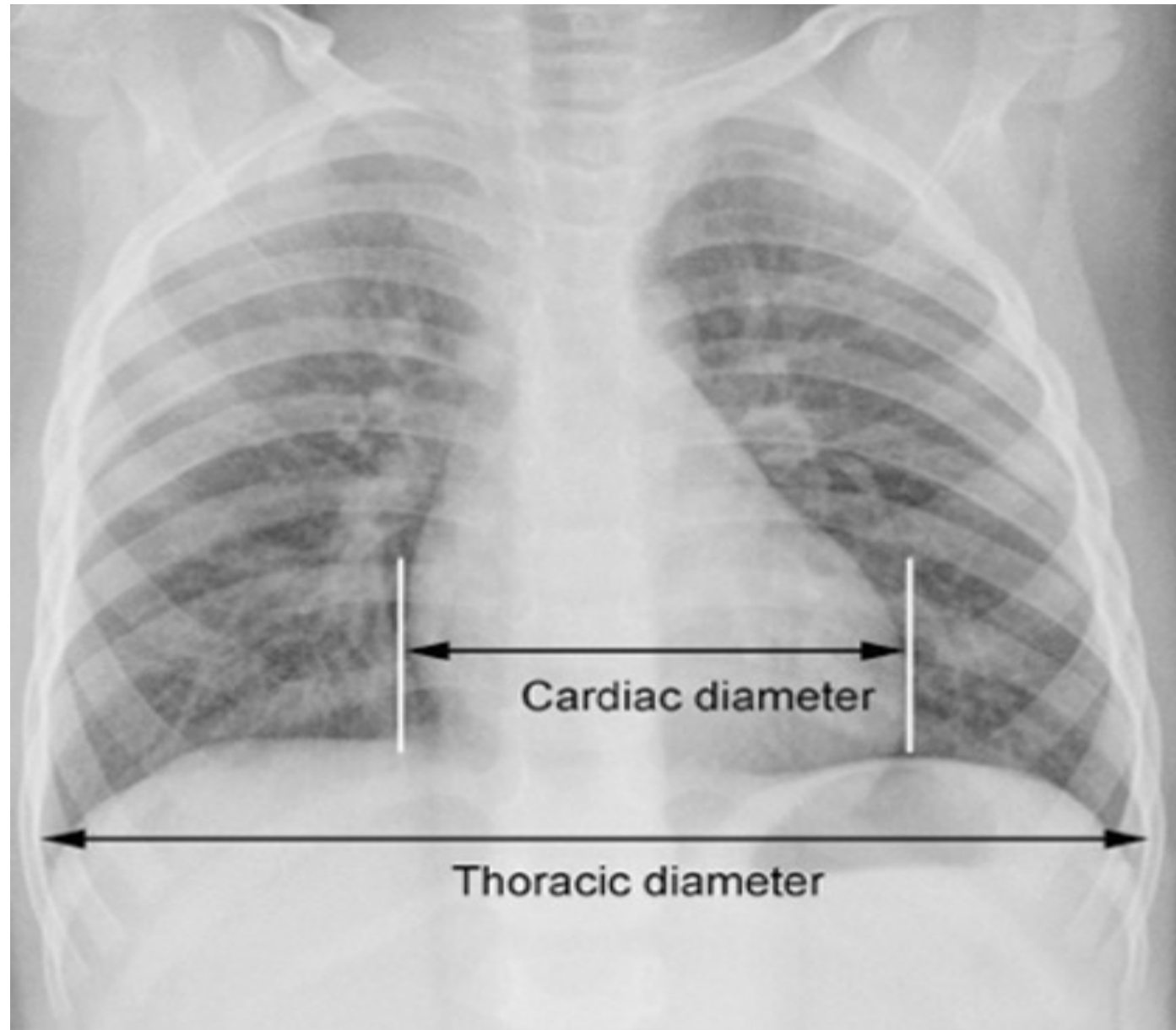
On the left side, the uppermost part of the cardiovascular is formed by the distal arch of the aorta as it curves posteriorly and inferiorly to become the descending thoracic aorta.

Immediately below the aortic bulge, the main pulmonary trunk and left main pulmonary artery are border forming.

A small segment of the left cardiac silhouette below the pulmonary artery is formed by the left atrial appendage. This segment normally is flat or slightly convex and is continuous with the curve of the left ventricle, which forms the largest part of the left border of the cardiac contour.

The cardiothoracic ratio (CTR) aids in the detection of enlargement of the heart which is most commonly from cardiomegaly but can be due to other processes such as **Pericardial effusion**

is the ratio of maximal horizontal cardiac diameter to maximal horizontal thoracic diameter (inner edge of ribs / edge of pleura). A normal measurement should be <0.5 .





Dextrocardia

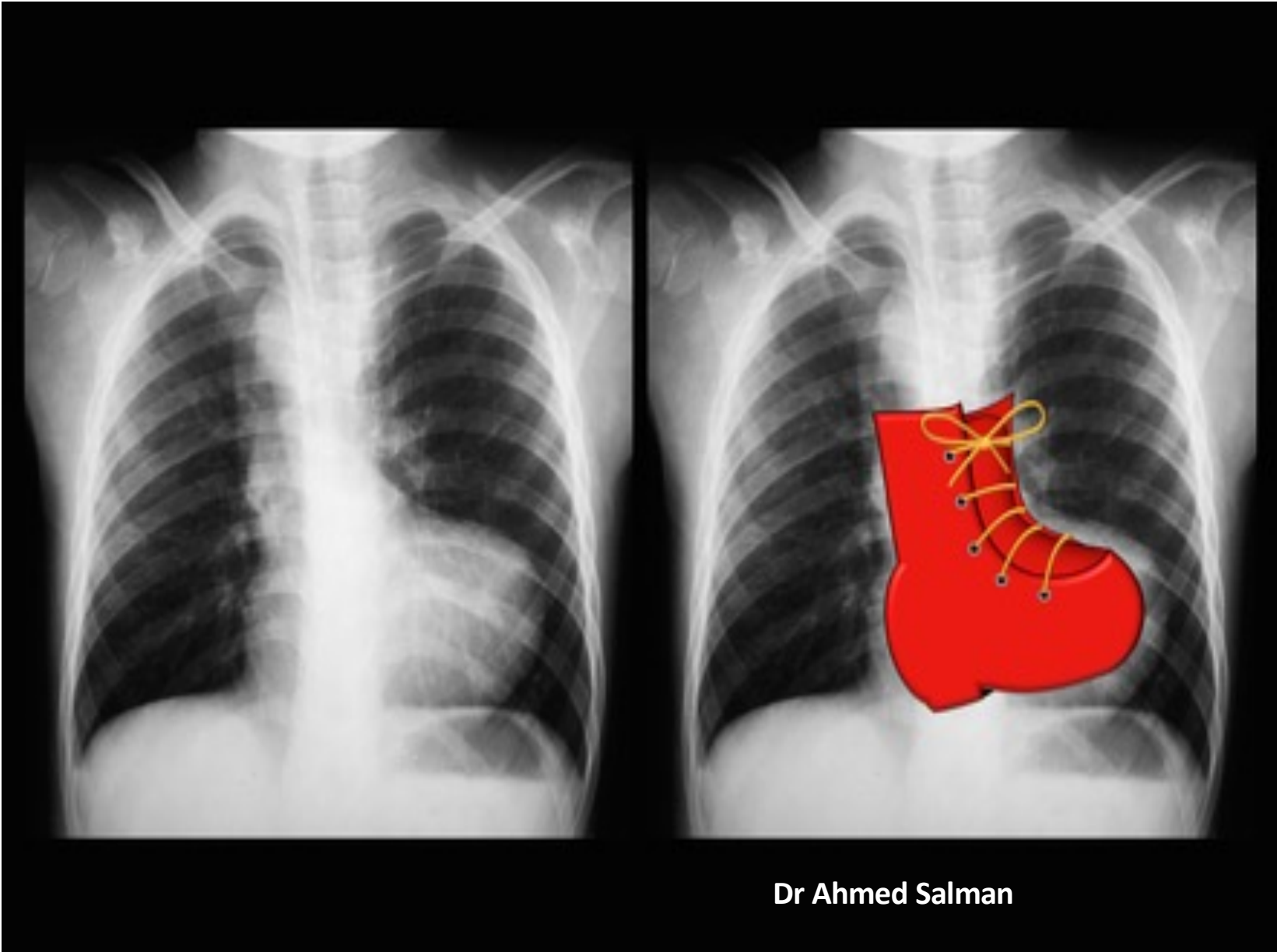
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Tetralogy of Fallot

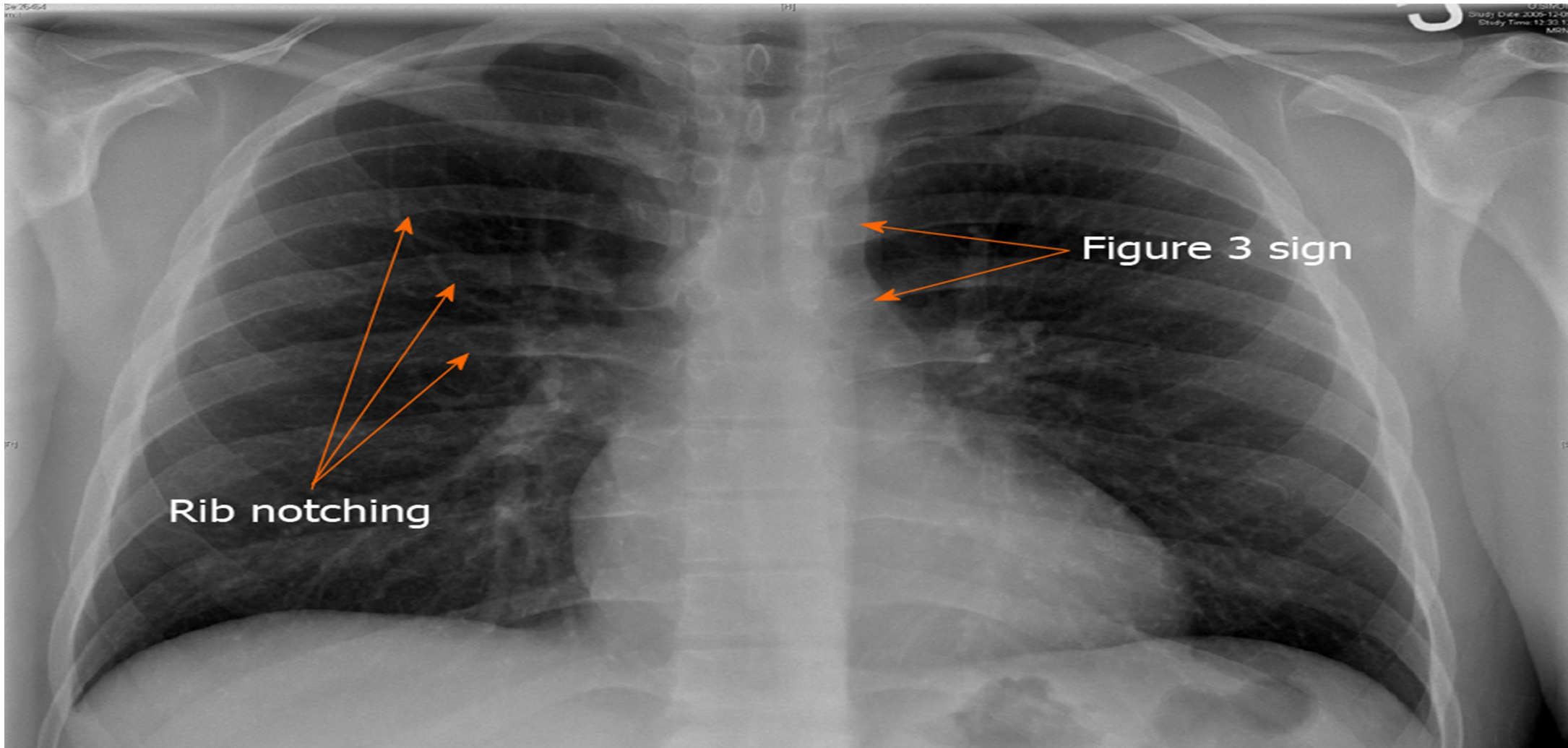
- Boot-shaped heart with an upturned cardiac apex due to right ventricular hypertrophy
- Concave pulmonary arterial segment.
- Pulmonary oligoemia occurs due to decreased pulmonary arterial flow.



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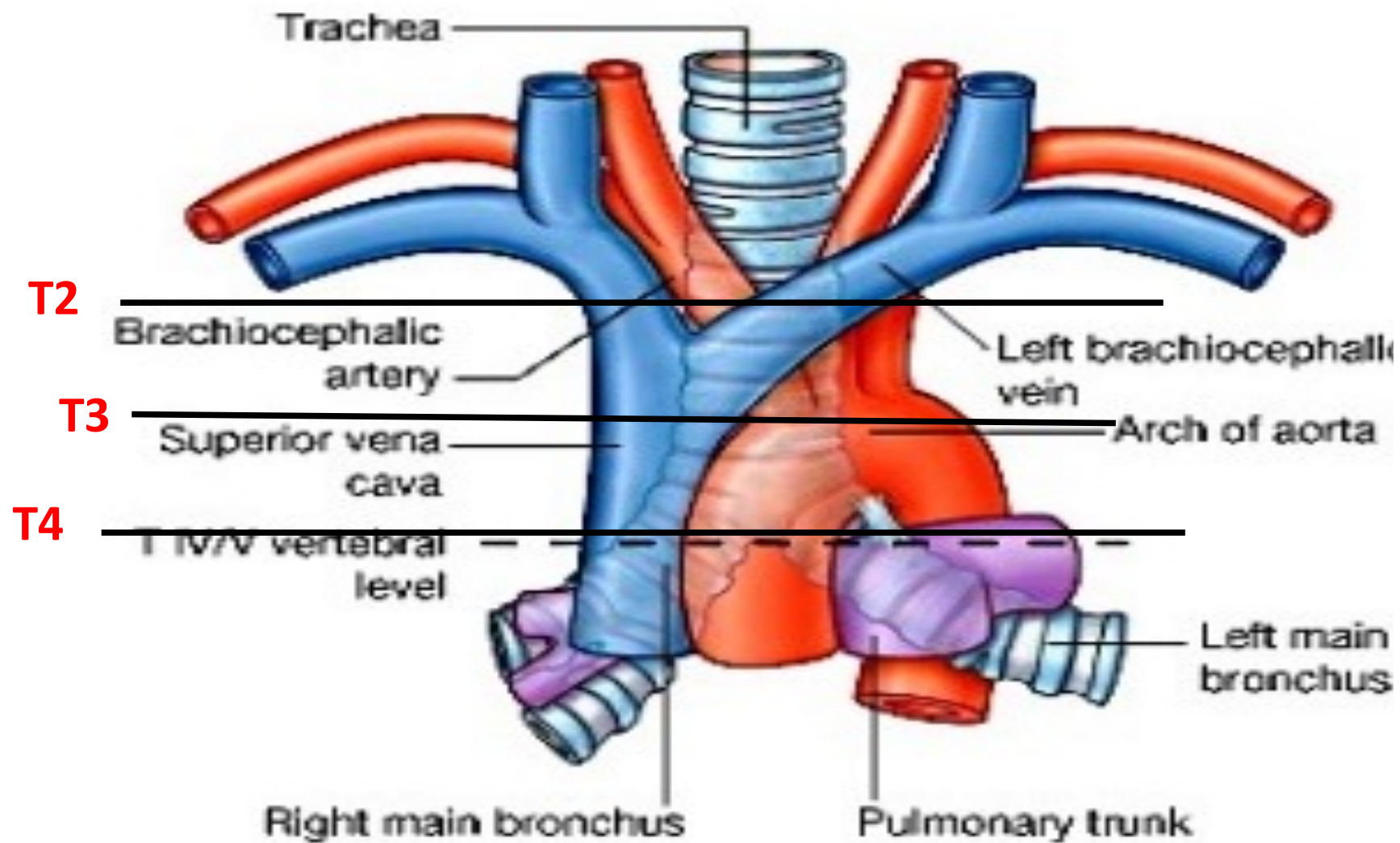


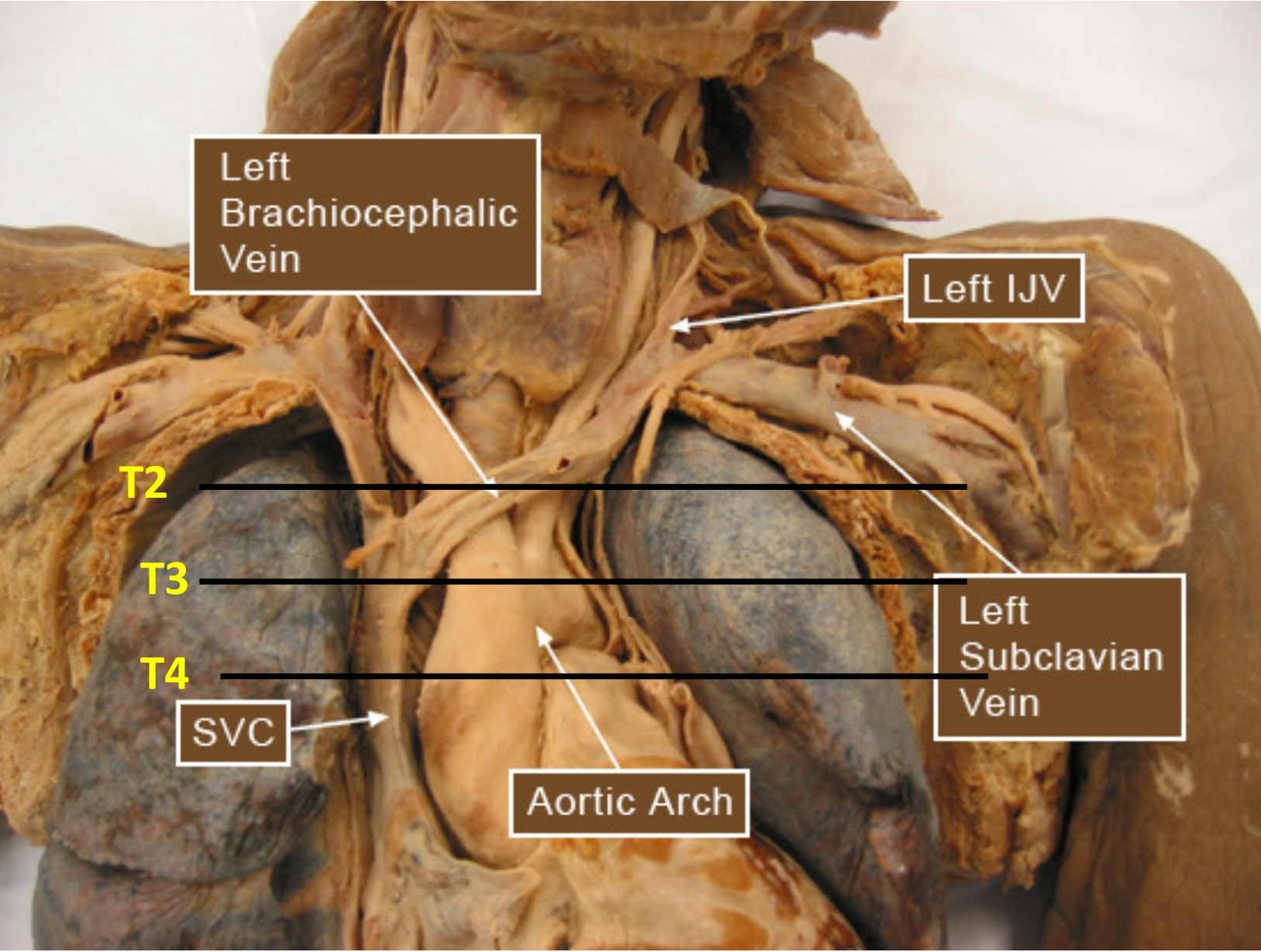
Coarctation of Aorta .Chest radiograph may show a normal cardiac contour or can be mildly enlarged. A characteristic finding of beneath the aortic notch suggests the narrowing of the descending aorta at the level of coarctation and dilatation pre and post coarctation . Bilateral inferior rib notching may also be seen in the third to eighth ribs suggesting the presence of dilated intercostal collateral arteries

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ON the CT scans

You should appreciate the fact that we are evaluating the inferior part of the section (not the superior), therefore, it should be noted right side will be actually on the left side on the scan and vice versa.



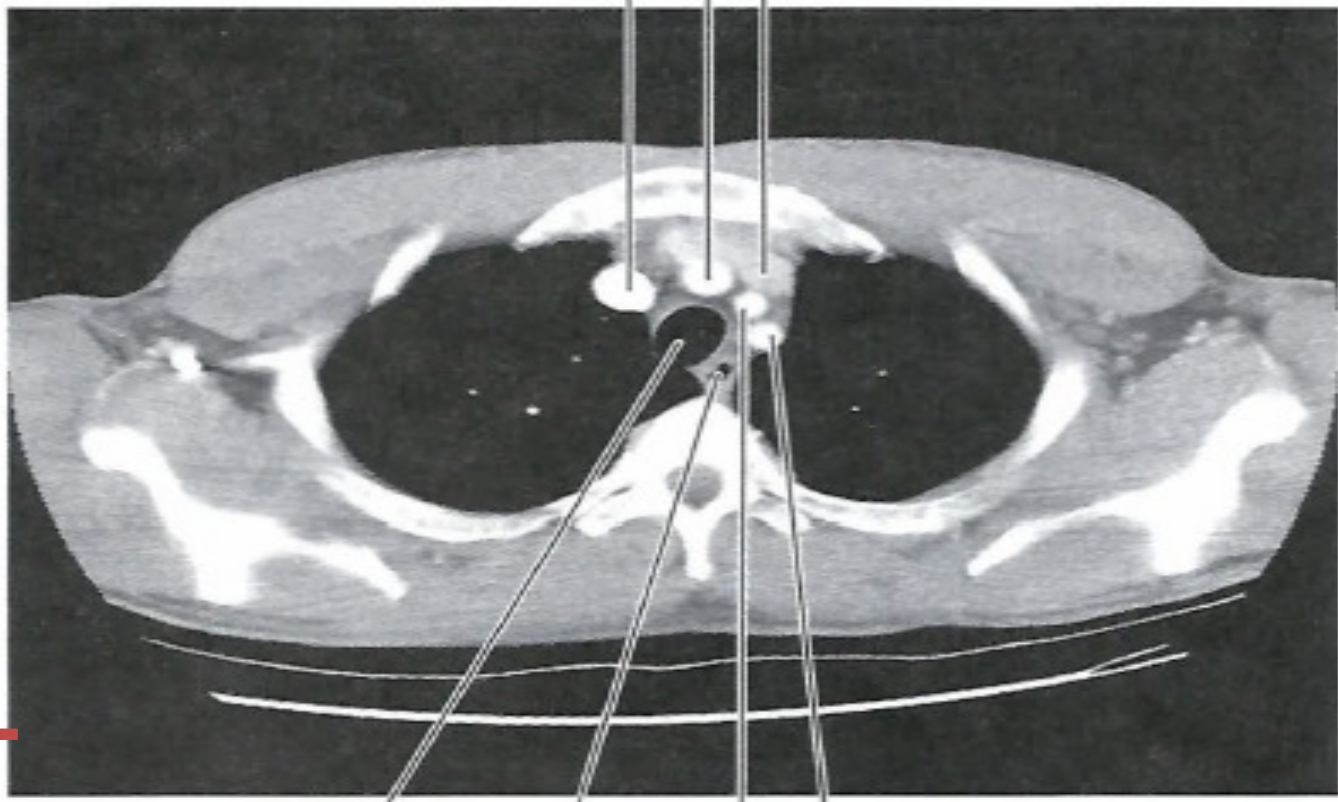


T2 LEVEL

L

Brachiocephalic trunk
Right brachiocephalic vein Left brachiocephalic vein

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Trachea Esophagus Left subclavian artery
Left common carotid artery

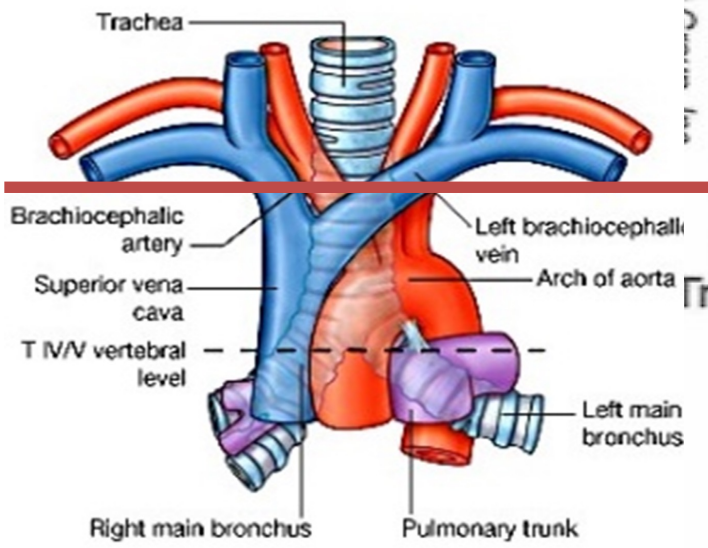
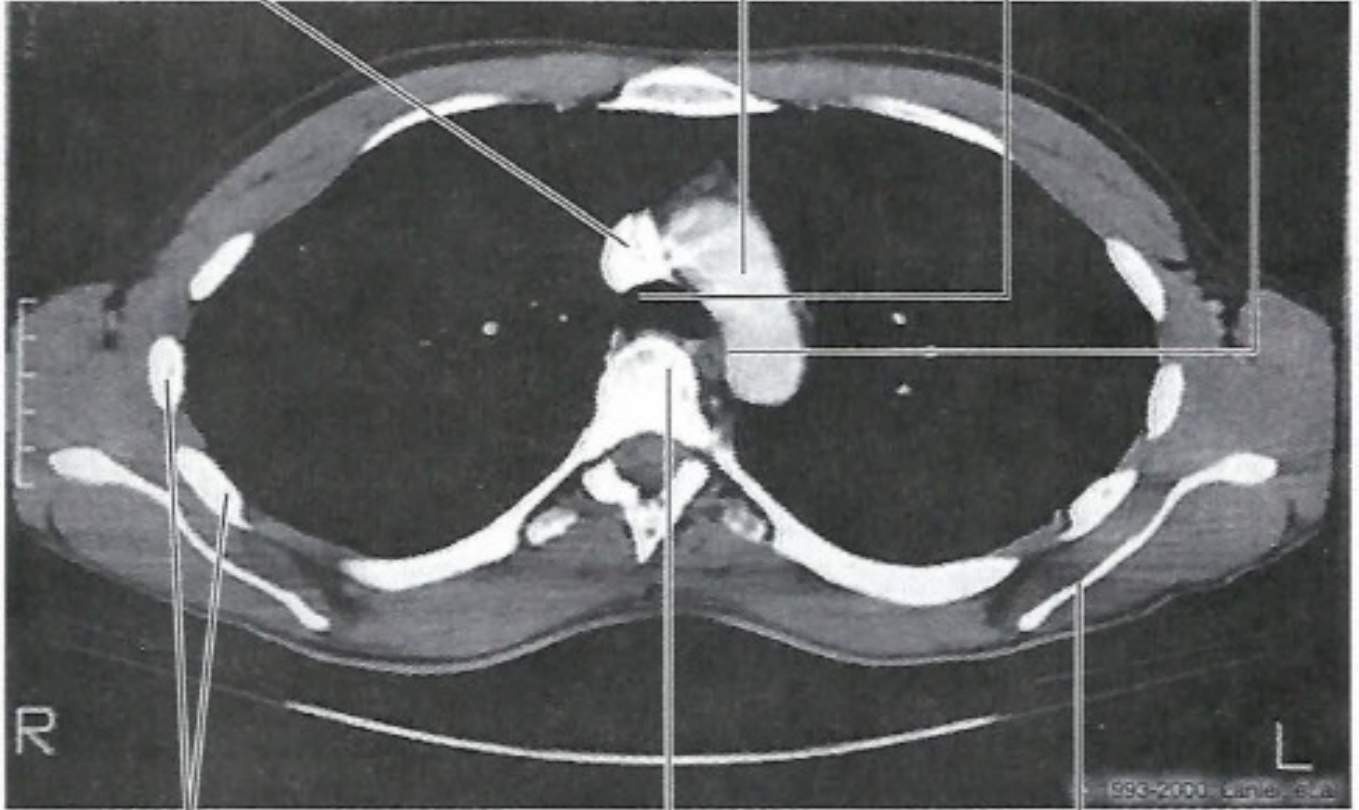


Figure III-2-39. Chest: CT, T2

T3 LEVEL

Superior Vena Cava Aortic Arch Trachea Esophagus

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Ribs T3 Vertebra Scapula

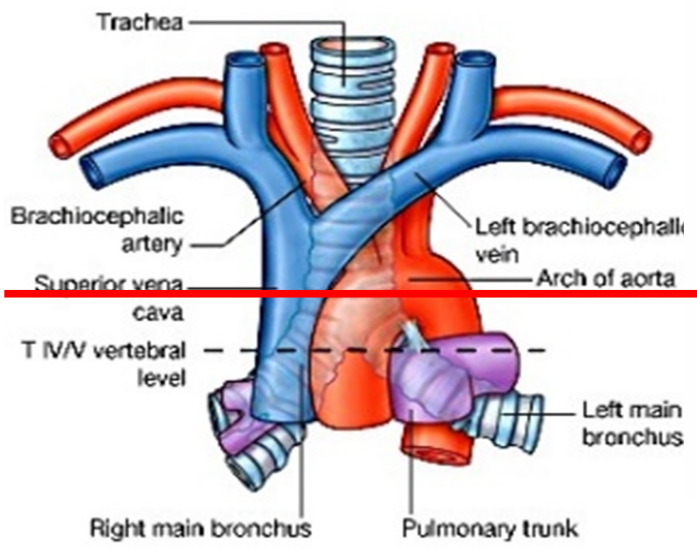
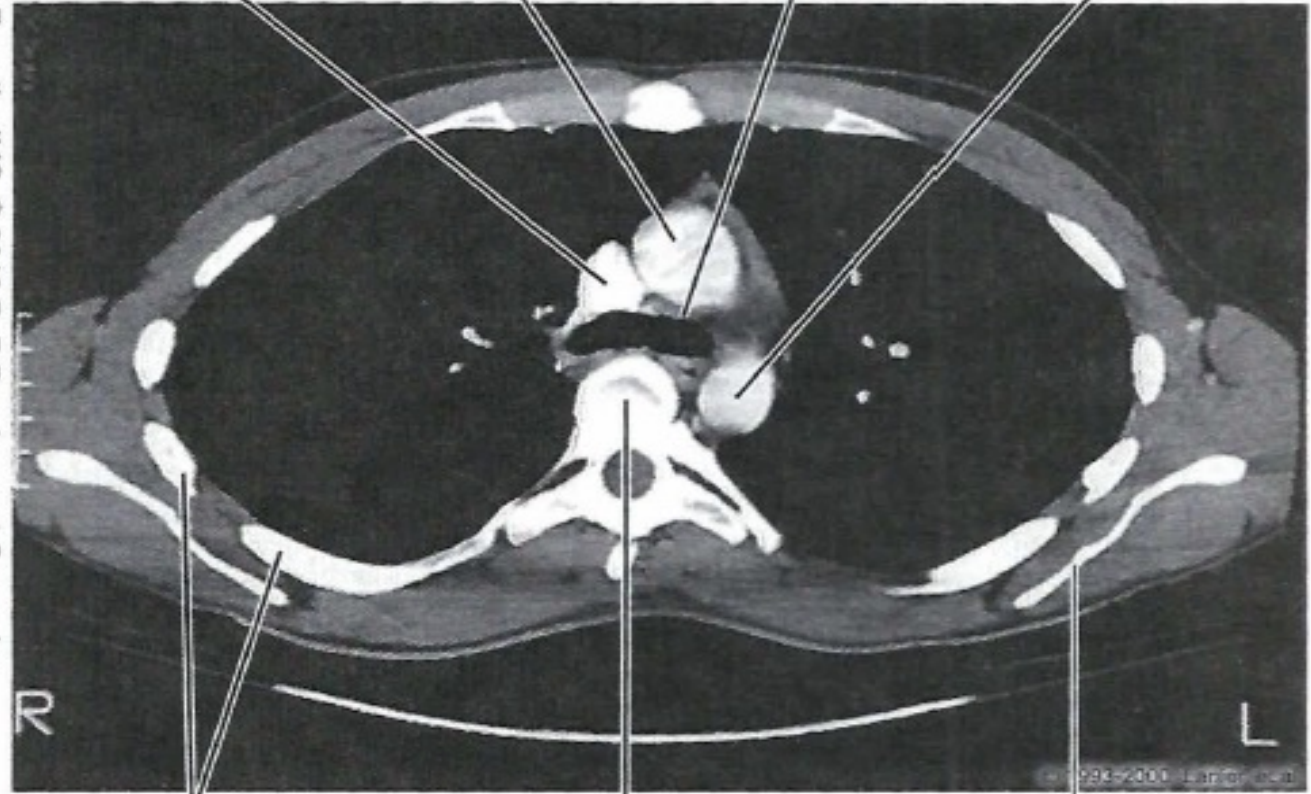


Figure III-2-40. Chest: CT, T3

T4 LEVEL

Superior Vena Cava Ascending Aorta Bifurcation of Trachea Descending Aorta

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Ribs T4 Vertebra Scapula

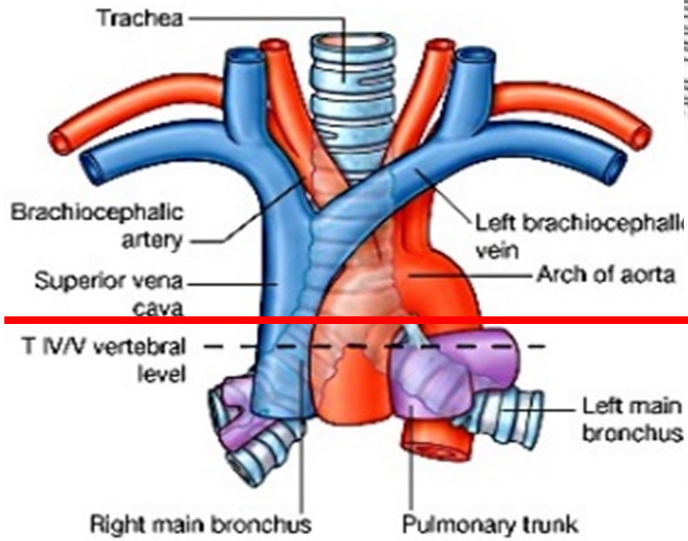
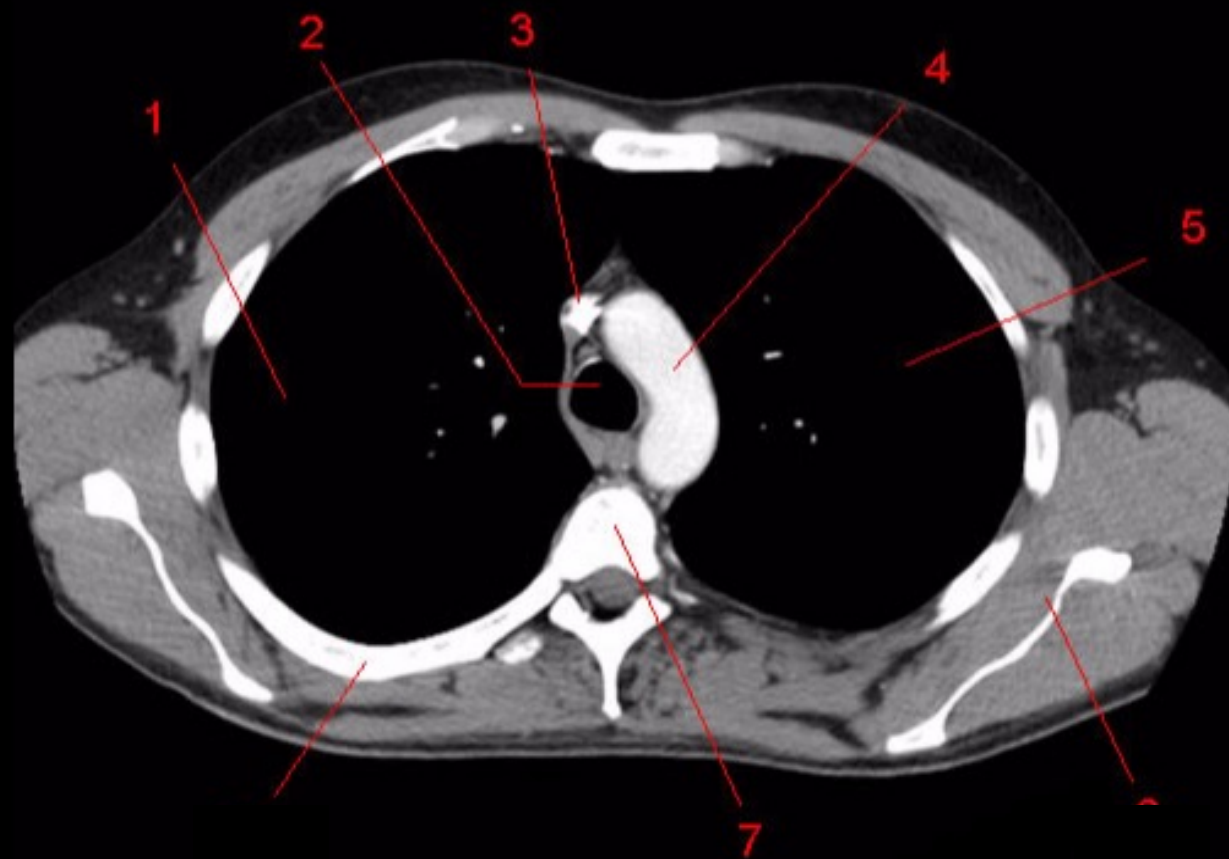
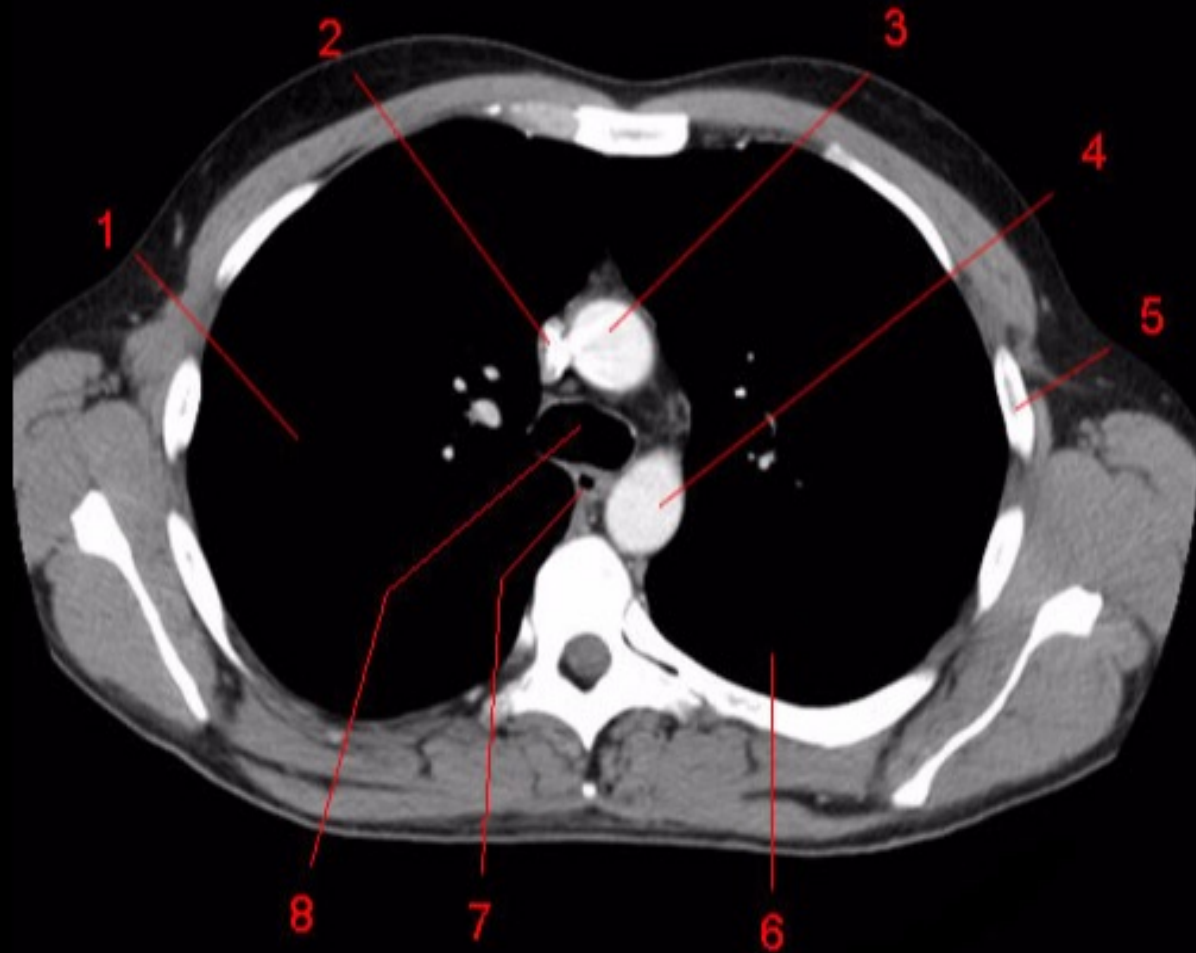


Figure III-2-41. Chest: CT, T4



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**Great Thanks to Professor Amjad Shatarat
for his permission to use some of his slides**

THANK YOU