KREP

2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

Anatomy and applied radiology – Lung segments and bronchi

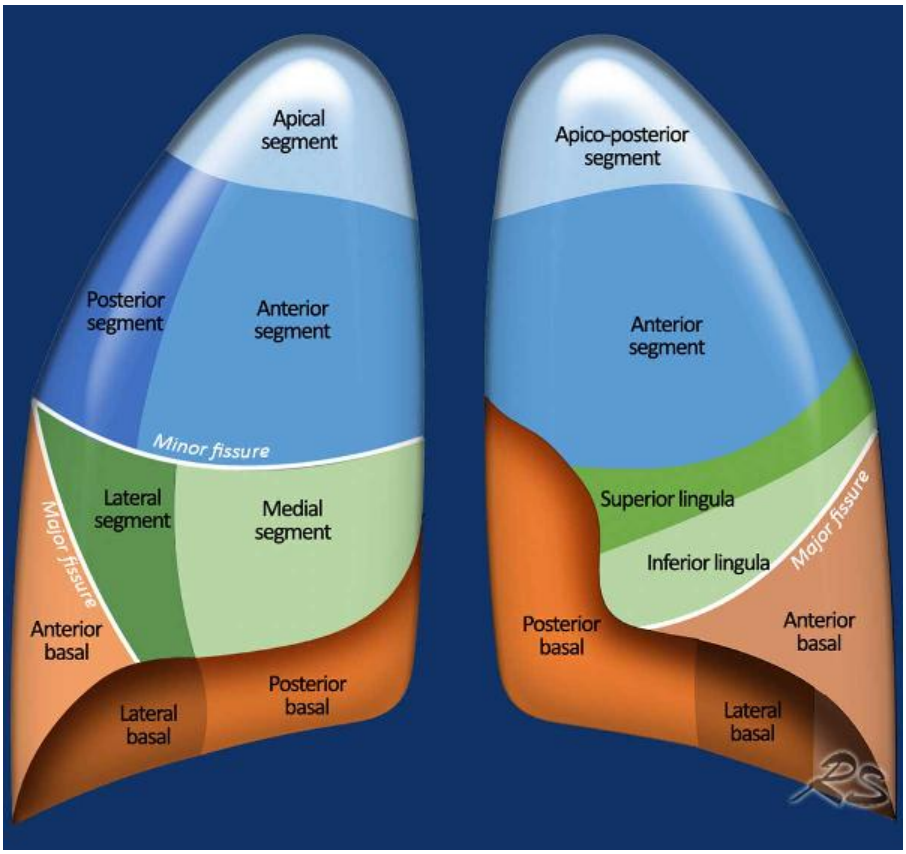
Pulmonary segments - illustration

Right Upper Lobe (in blue)
Apical segment (RB1) - Posterior segment (RB2) - Anterior segment (RB3)
Middle lobe (in green)
Lateral segment (RB4) - Medial segment (RB5)
Right Lower Lobe (in orange)
Superior segment (RB6) - Medial basal segment (RB7) - Anterior basal segment (RB8) - Lateral basal segment (RB9) - Posterior basal segment (RB10).

The Superior and Medial basal segment of the right lower lobe are not visible in this illustration because they are located posterior to the right upper and middle lobe.

Left Upper Lobe (in blue)
Apicoposterior segment (LB1/2) - Anterior segment (LB3)
***Lingula* (in green)**
Superior segment (LB4) - Inferior segment (LB5)
Left Lower Lobe (in orange)
Superior segment (LB6) - Anterior basal segment (LB8) - Lateral basal segment (LB9) - Posterior basal segment (LB10).

The Superior segment of the left lower lobe is not visible in this illustration because it is located posterior to the left upper lobe.



There is some symmetry in the segmental anatomy of the lungs, since the left is only slightly different from the right lung.
The right lung has three lobes (ie. upper, middle and lower) with ten segments, while the left lung has two lobes (ie. upper and lower) with less segments.

In the left upper lobe the apical and posterior segment share a common trunk segmental bronchus and are combined into the apicoposterior segment.
The lingula is part of the left upper lobe and has a superior/inferior orientation, while the middle lobe on the right is separate from the upper lobe and has a medial/lateral orientation.

In the left lower lobe there is an anterior basal segment, but no separate medial basal segment (LB7) due to the left-sided position of the heart in the chest cavity.

Please note that both radiological and surgical literature may differ somewhat regarding naming of the left-sided segments, with some articles mentioning an anteromedial basal segment (LB7/8) in the left lower lobe.
Also, the apicoposterior segment of the left upper lobe is sometimes regarded as two separate segments that only share a common trunk.

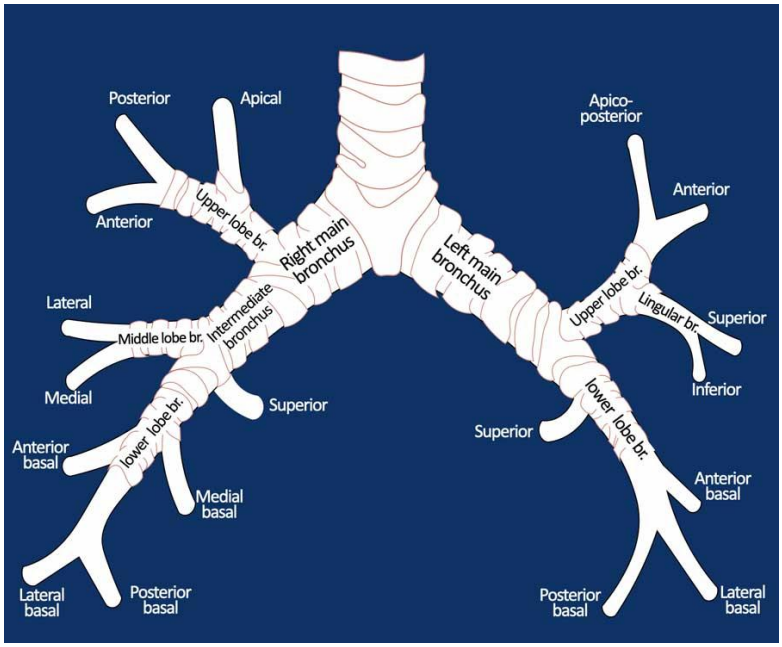
Pulmonary segments

	Right lung		Left lung
Upper	Apical (RB1)	**Upper**	Apicoposterior (LB1/2)
	Posterior (RB2)		Anterior (LB3)
	Anterior (RB3)		
Middle	Lateral (RB4)	*Lingula*	Superior (LB4)
	Medial (RB5)		Inferior (LB5)
Lower	Superior (RB6)	**Lower**	Superior (LB6)
	Medial basal (RB7)		Anterior basal (LB8)
	Anterior basal (RB8)		Lateral basal (LB9)
	Lateral basal (RB9)		Posterior basal (LB10)
	Posterior basal (RB10)		

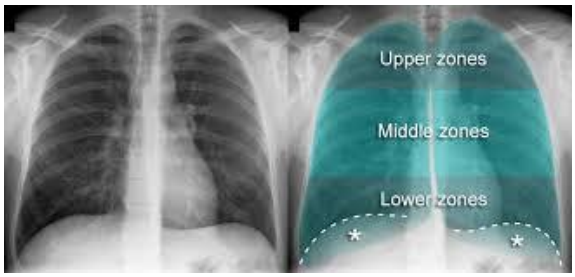
List of all pulmonary segments. In brackets the numeration according to the Boyden classification, which is often used by surgeons and pulmonologists. Note that segment 7 is omitted on the left side.

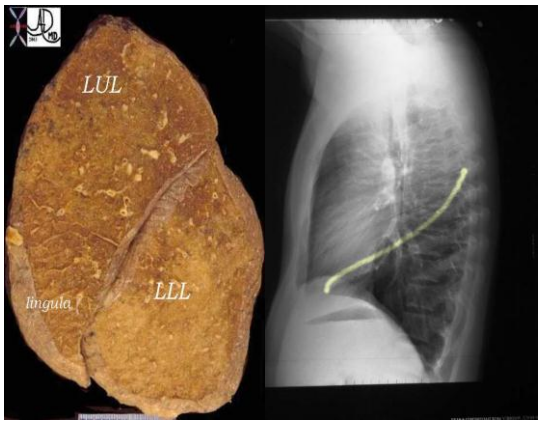
Bronchial tree

From the trachea and main bronchi, the airways further divide into the lobar (ie. secondary) bronchi, and thereafter into the segmental (ie. tertiary) airways.
Pulmonary segments are based on this generation of bronchi.
Pulmonary segments are a functionally independent unit of the lung, supplied by their own segmental bronchus and pulmonary artery and with their own venous and lymphatic drainage.
This allows for loss of a segment, without affecting the adjacent segments.
Surgeons use this knowledge for planning and executing segmentectomies, a procedure increasingly favoured over lobectomy for small peripheral lesions without lymph node involvement, as it is hypothesized that preservation of lung tissue will benefit pulmonary function post-operatively without compromising oncological treatment principles.

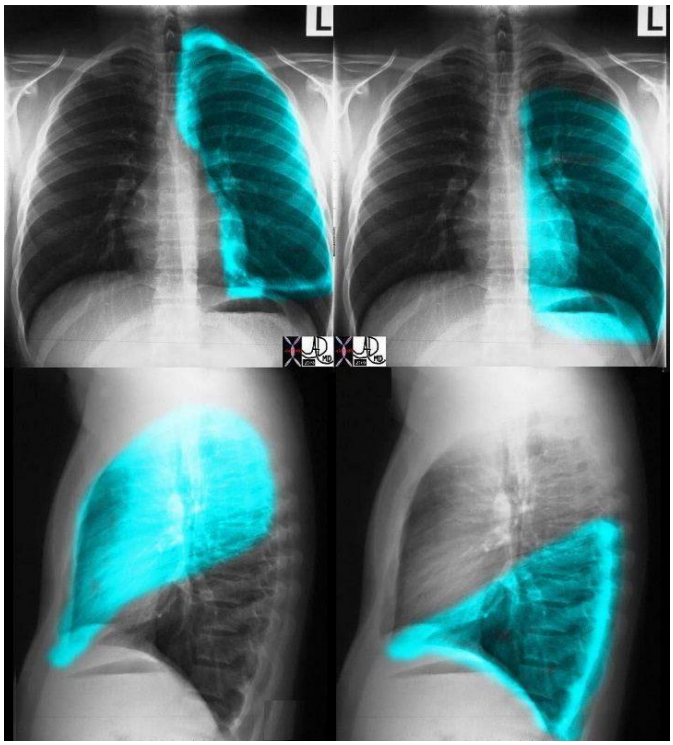


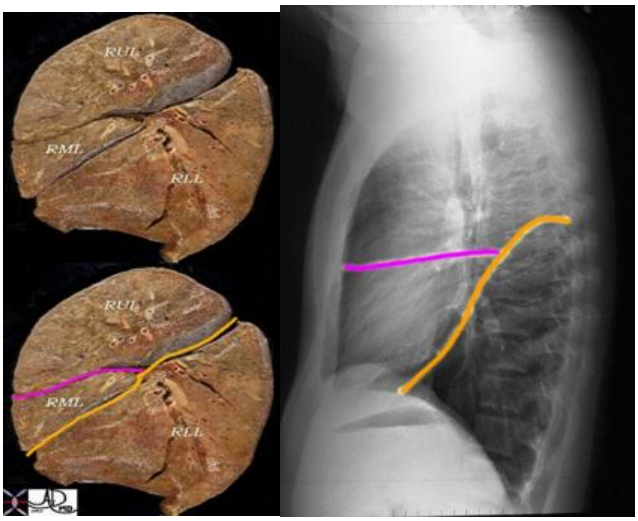
Chest Radiograph Frontal view





LATERAL PROJECTION – FISSURE DIVIDES THE LEFT UPPER LOBE (INCLUDING LINGULA) AND LEFT LOWER LOBE.

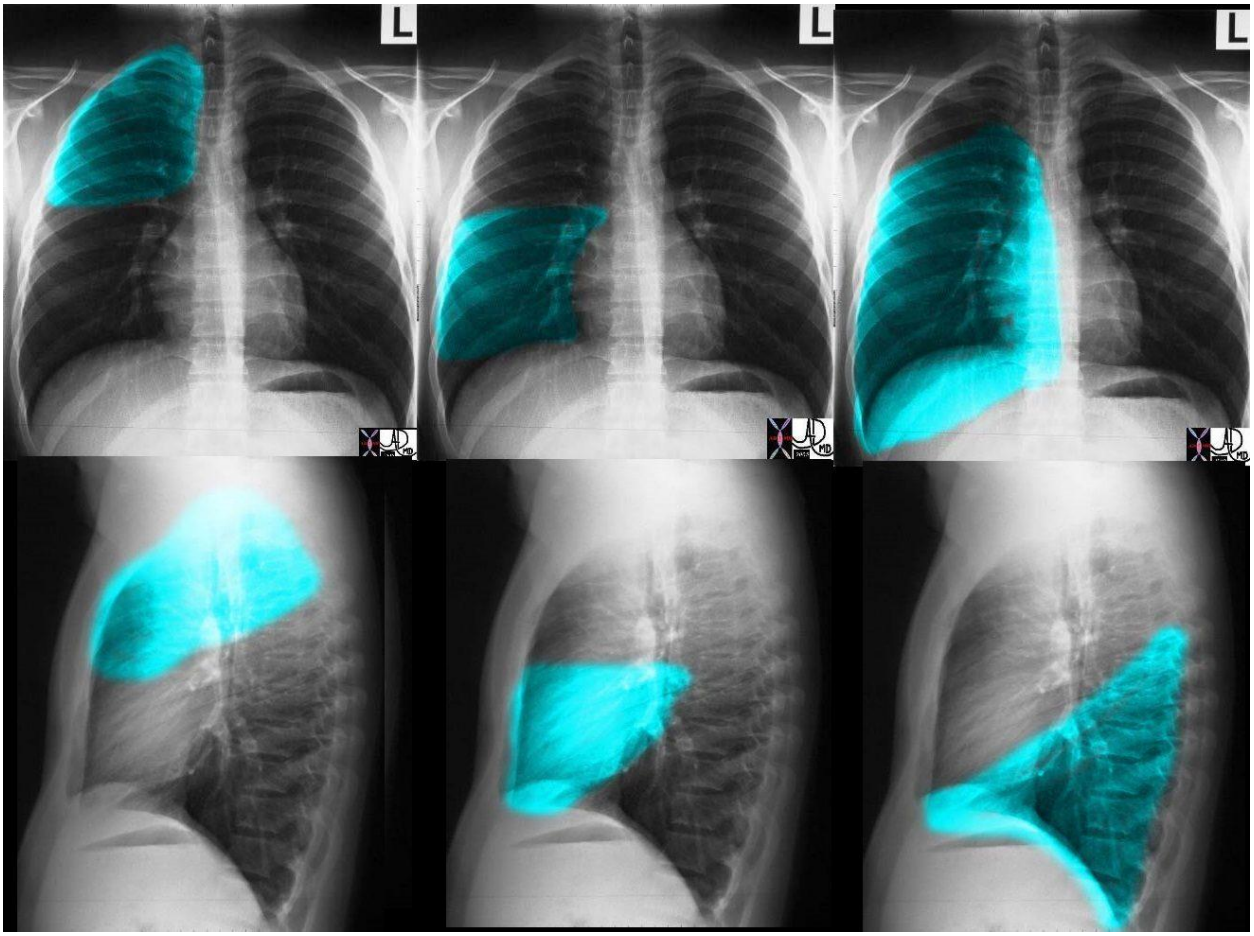




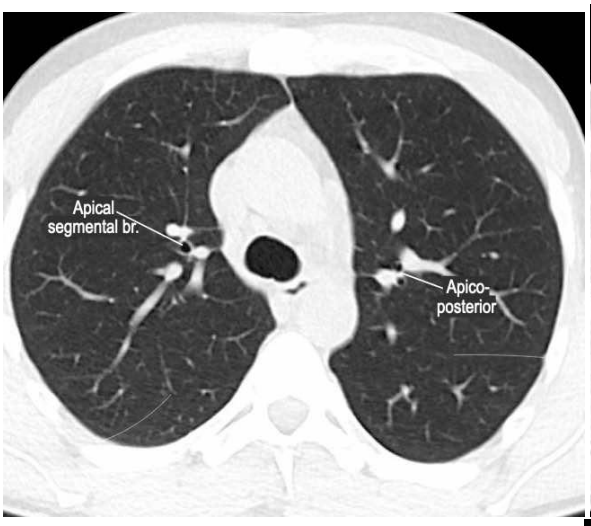
ANATOMIC SPECIMEN SHOWING MAJOR and MINOR FISSURES DIVIDING THE RIGHT LUNG INTO 3 LOBES

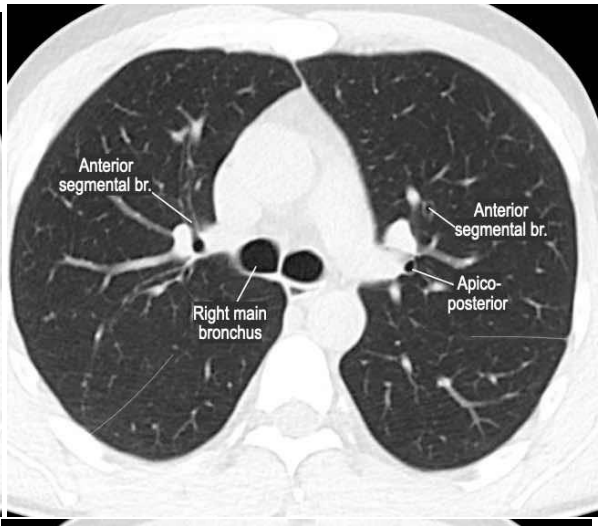
The right lung has a small right upper lobe (RUL) separated from the middle lobe (RML) by the minor fissure (pink,lower image) . Both the RUL and RML are anterior and are separated from the lower lobe by the major fissure (orange line)

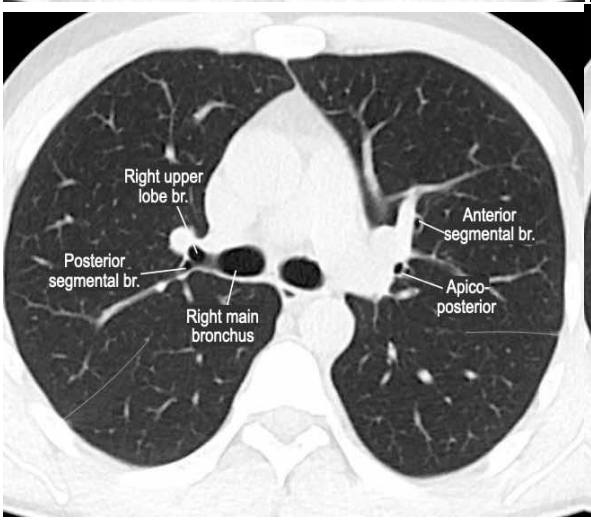
Ashley Davidoff MD

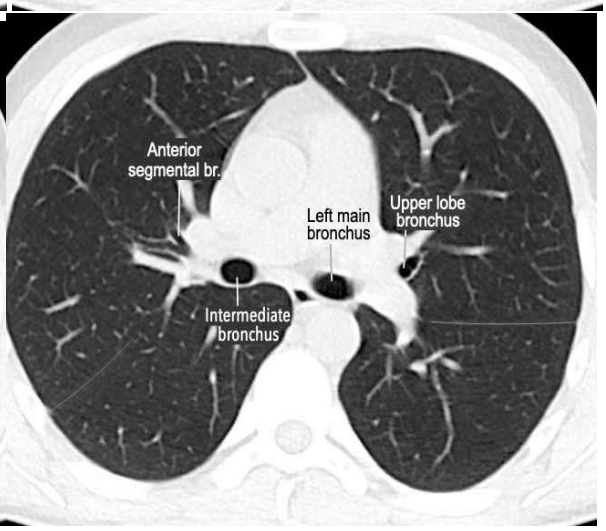


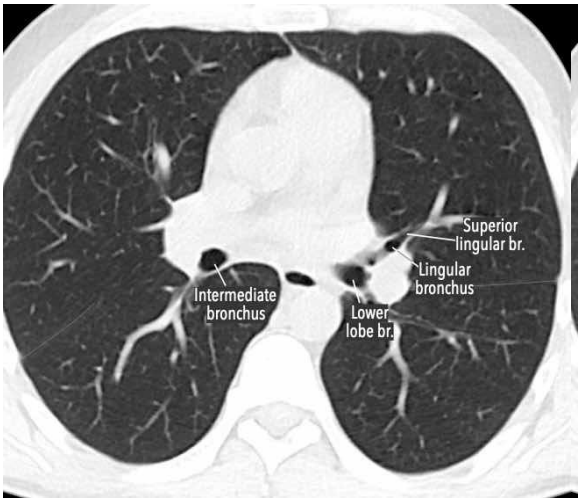
Bronchi on CT

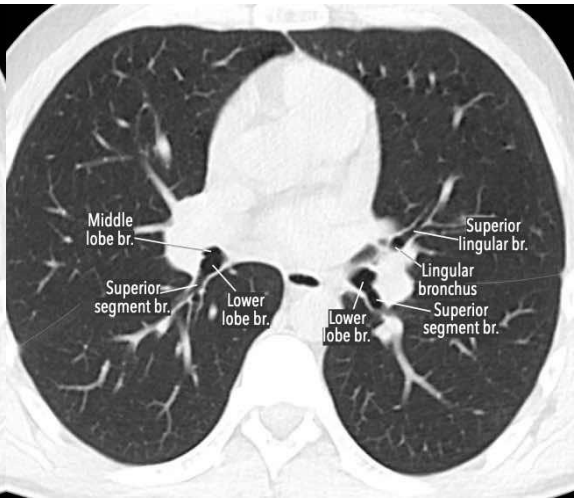


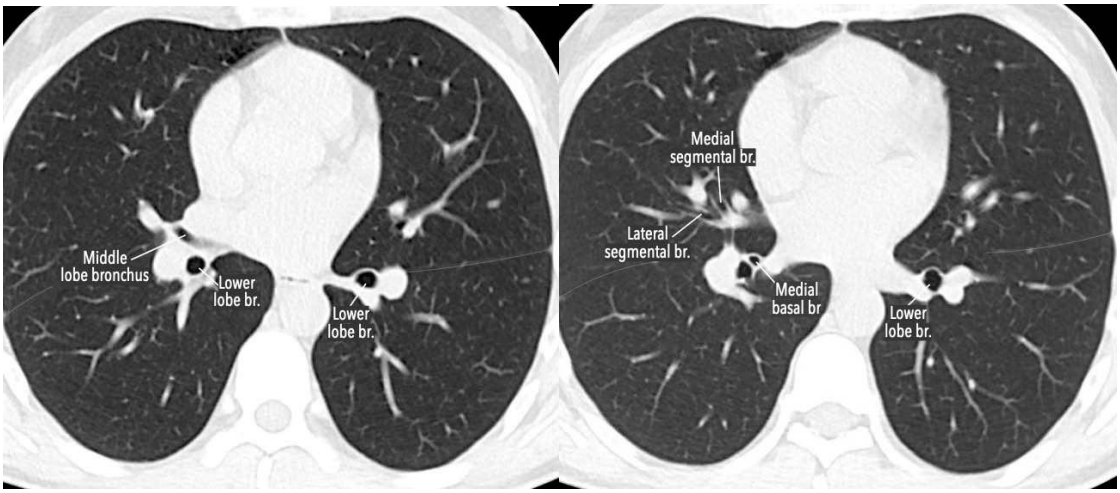


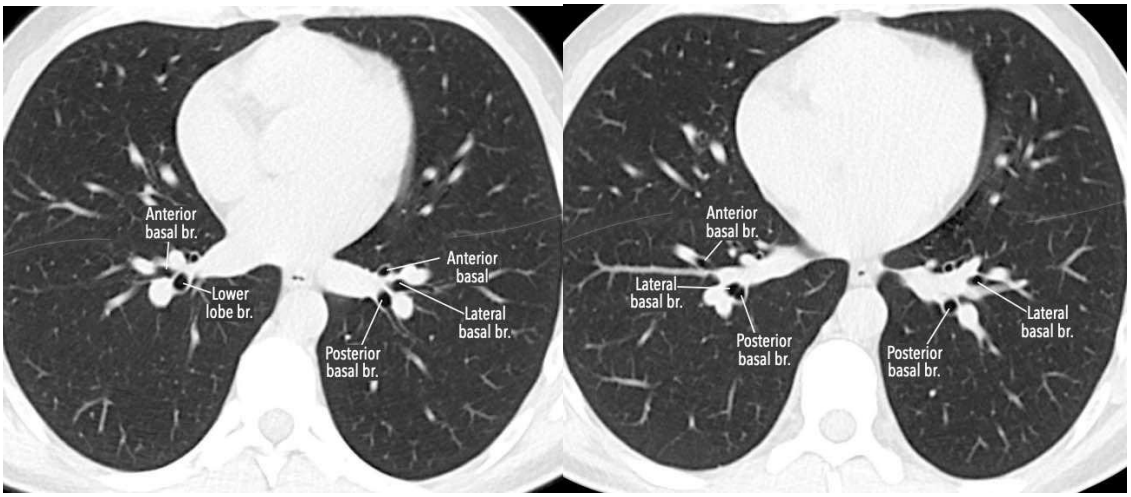




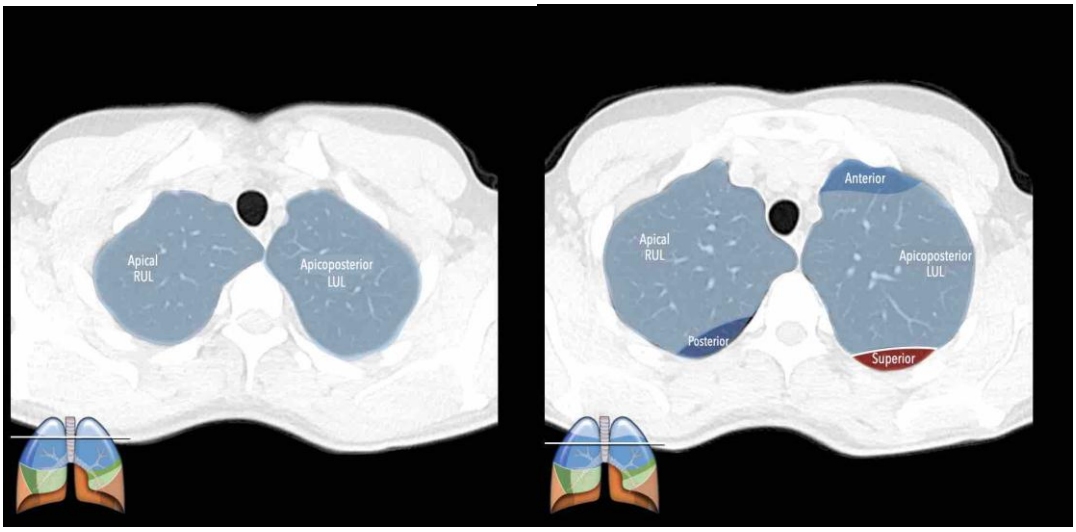


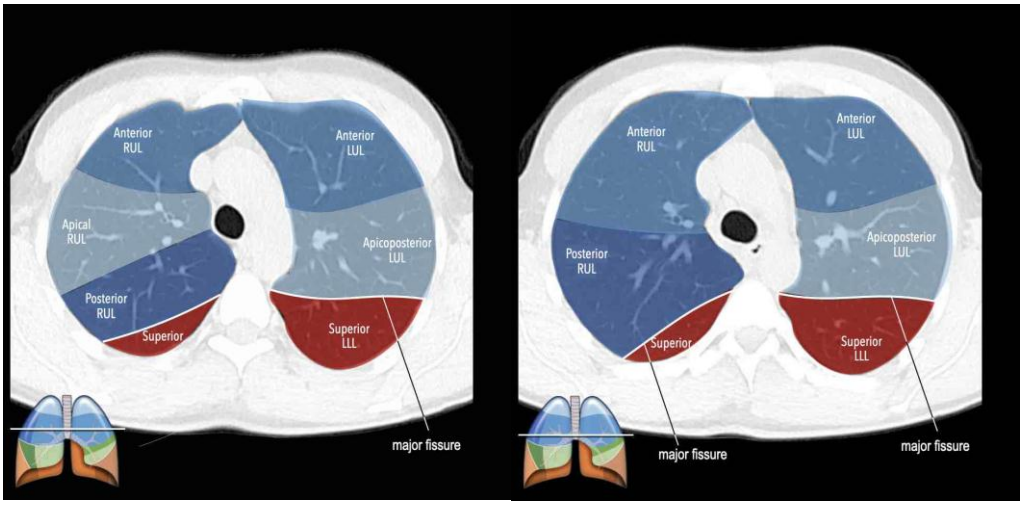


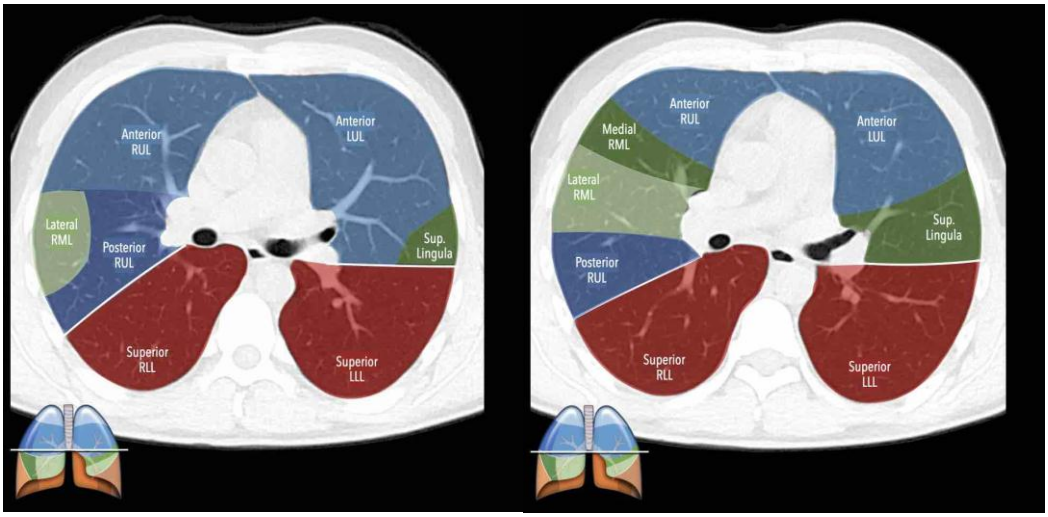

Middle lobe bronchus
Lower lobe br.
Lower lobe br.
Medial segmental br.
Lateral segmental br.
Medial basal br
Lower lobe br.

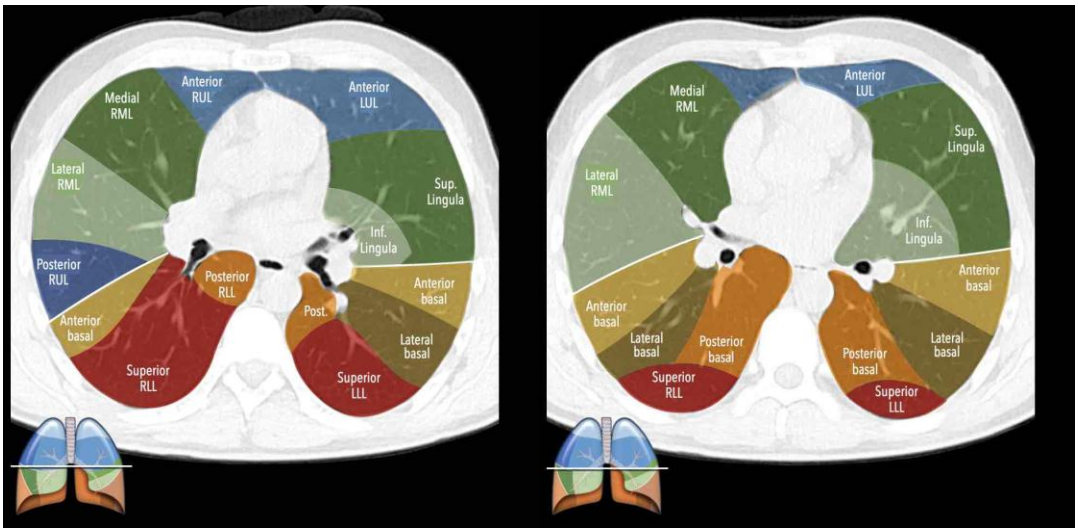

Anterior basal br.
Lower lobe br.
Posterior basal br.
Anterior basal
Lateral basal br.
Anterior basal br.
Lateral basal br.
Posterior basal br.
Posterior basal br.
Lateral basal br.

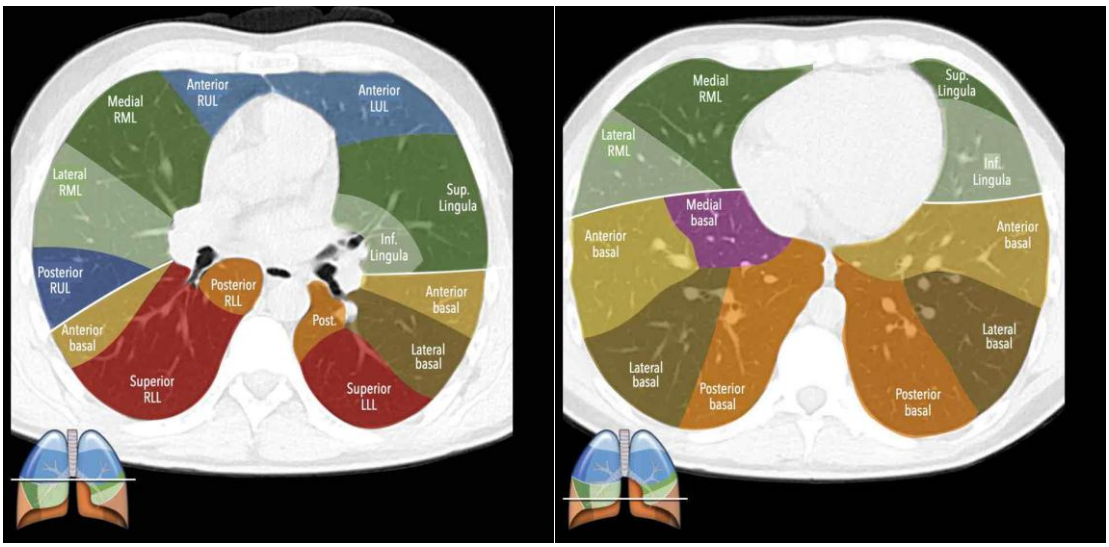
Lung segments on CT











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References ; https://radiologyassistant.nl/