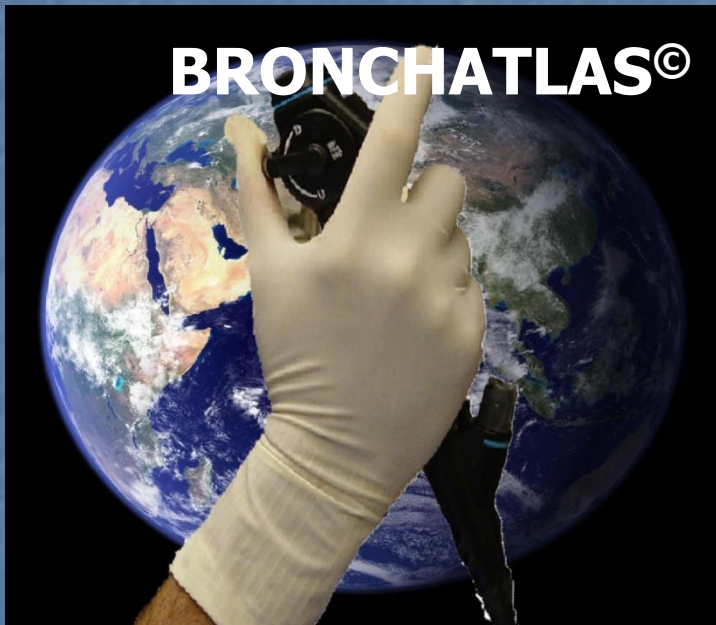


# 3A: Variant Airway Anatomy

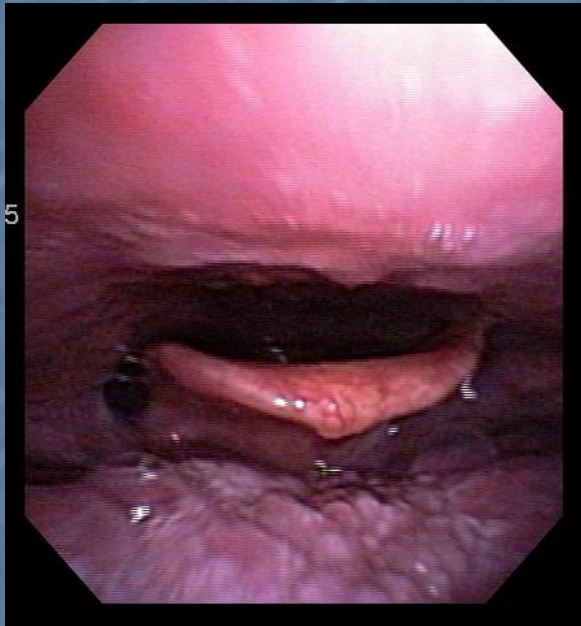
Series of Web-based Bronchoscopic Images



Prepared By  
Bronchoscopy International

Contact us at  
[BI@bronchoscopy.org](mailto:BI@bronchoscopy.org)

# Epiglottitis

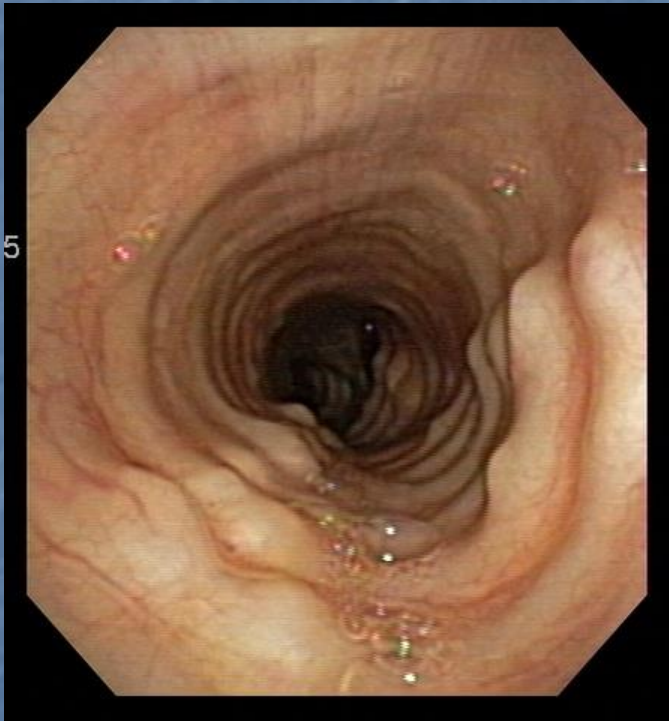


Thin tongue-like



Thick Omega-shaped

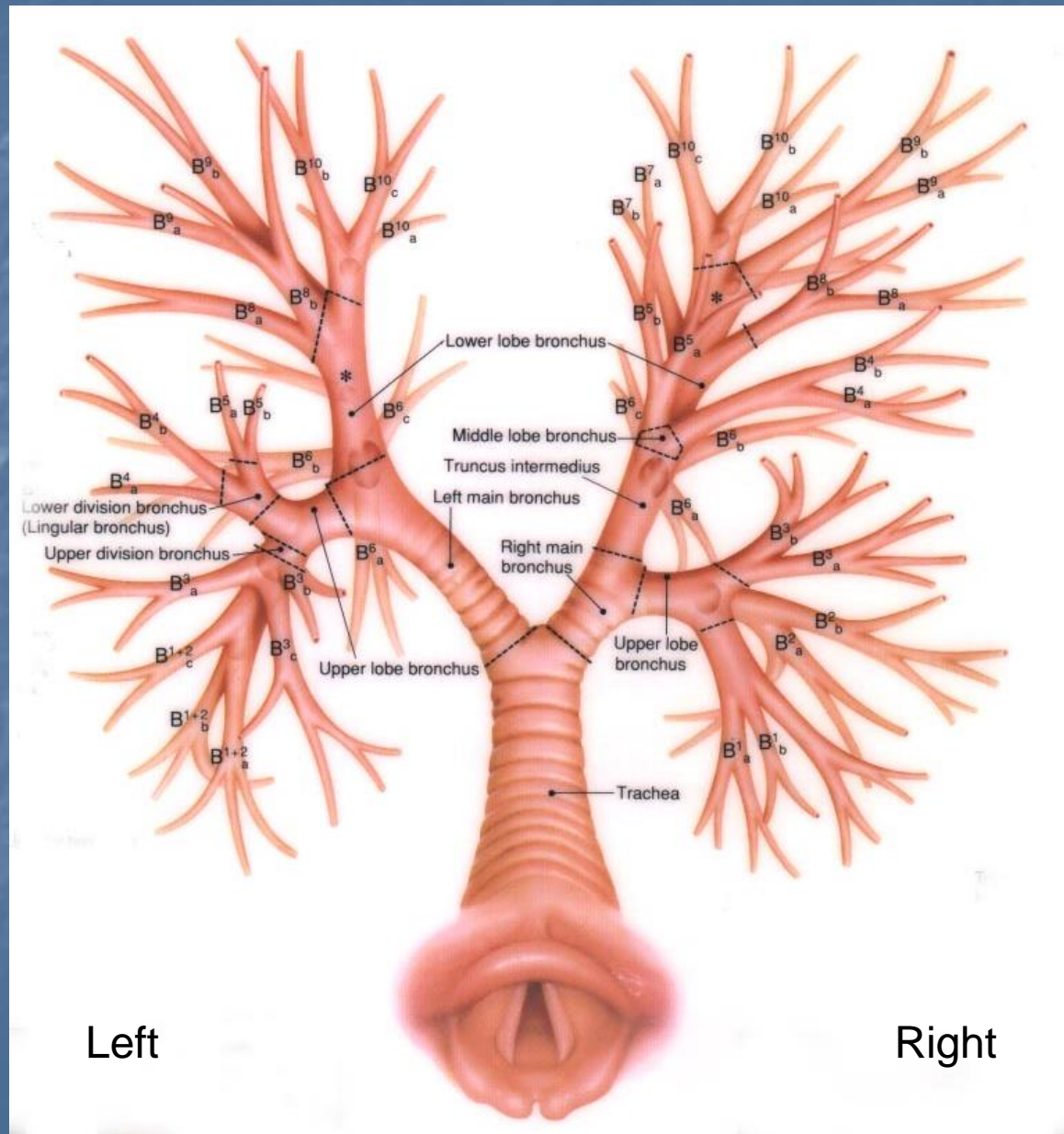
# Cartilage protuberance trachea



Patient without  
respiratory symptoms



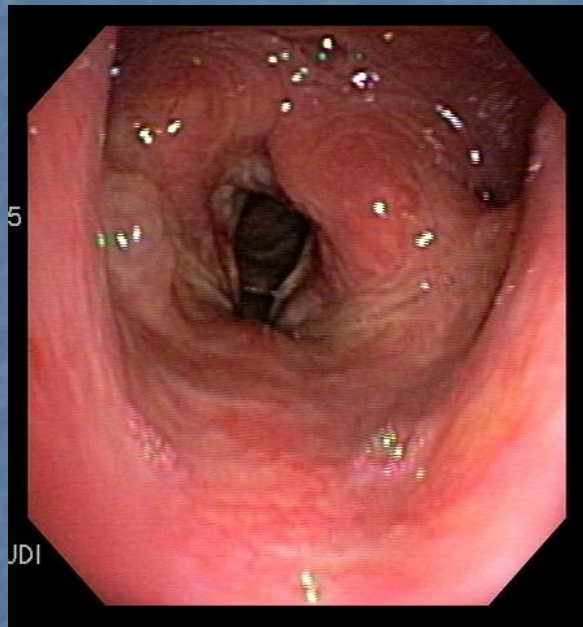
# Lobar and segmental anatomy



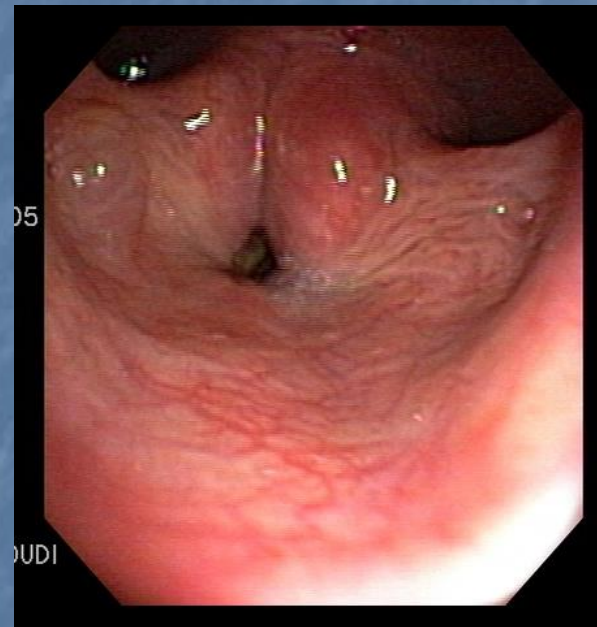
From Oho and  
Matsukawa

11/1/2014

# Enlarged arytenoids



Open

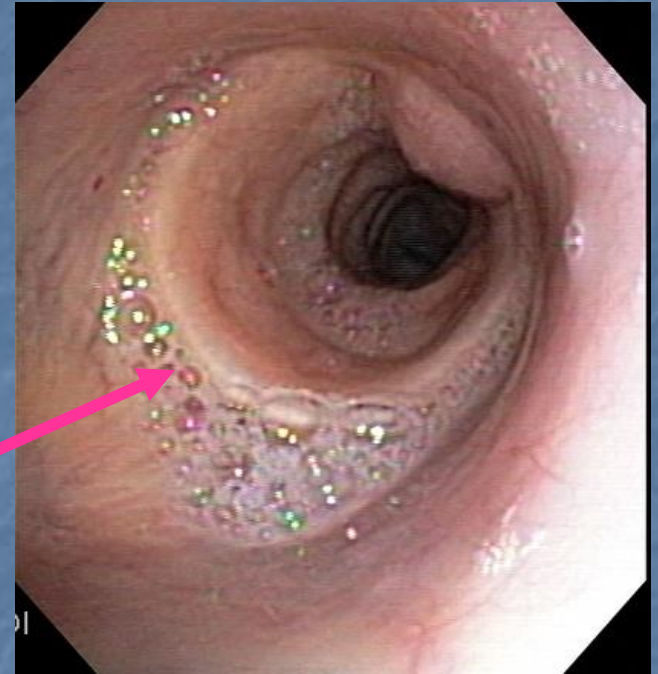


Closed

# Airway secretions

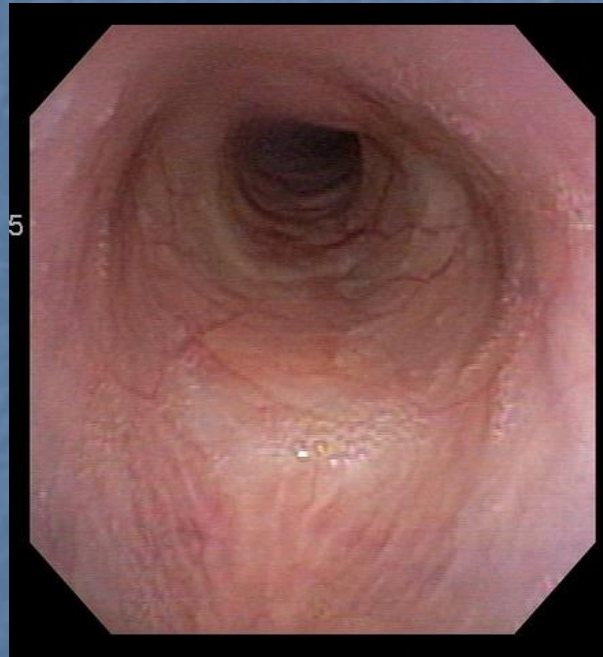
- Airway secretions are usually clear and frothy.

Cricoid cartilage (superior aspect)

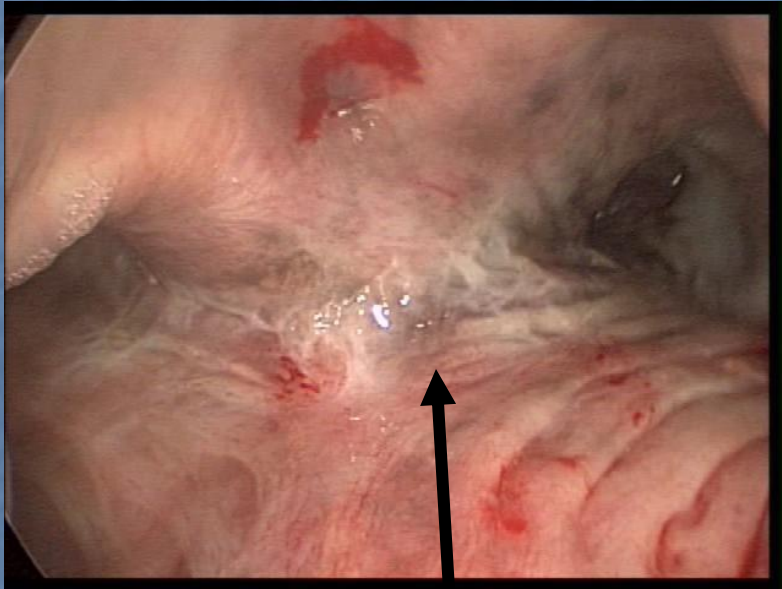




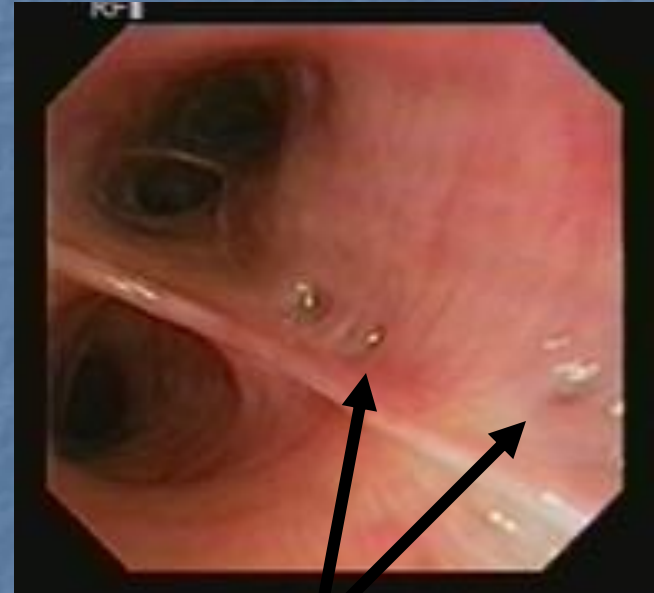
# Small, round cricoid region in woman of small stature



# Also seen in the airway wall



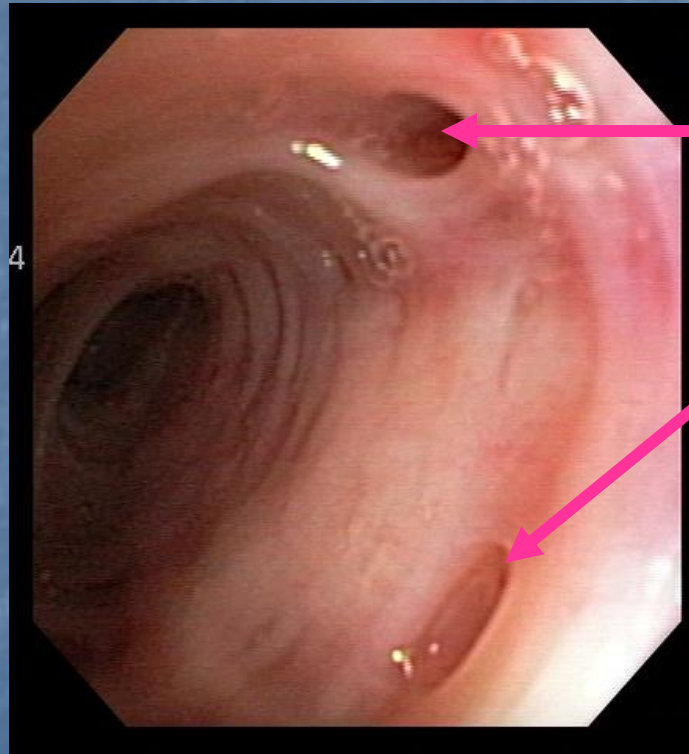
Anthracotic pigment



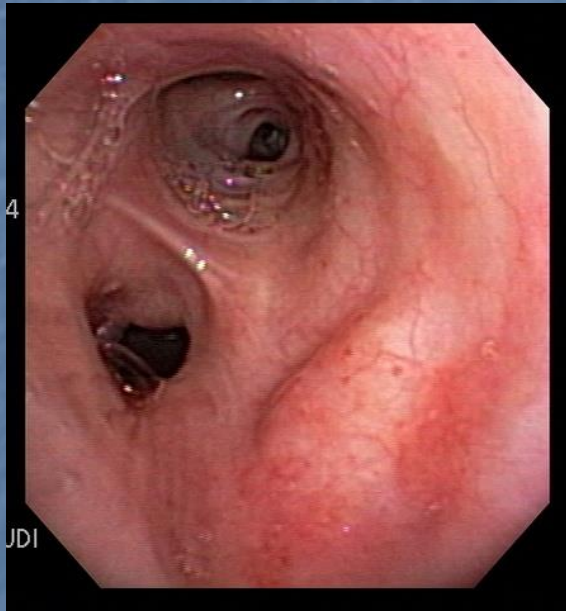
Bronchial glands/  
mucosal pits



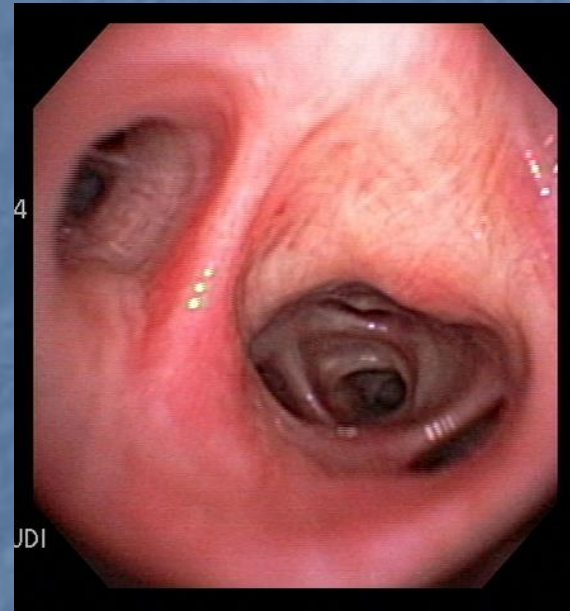
# Enlarged bronchial pits



# Mucosal swelling



Anterior swelling

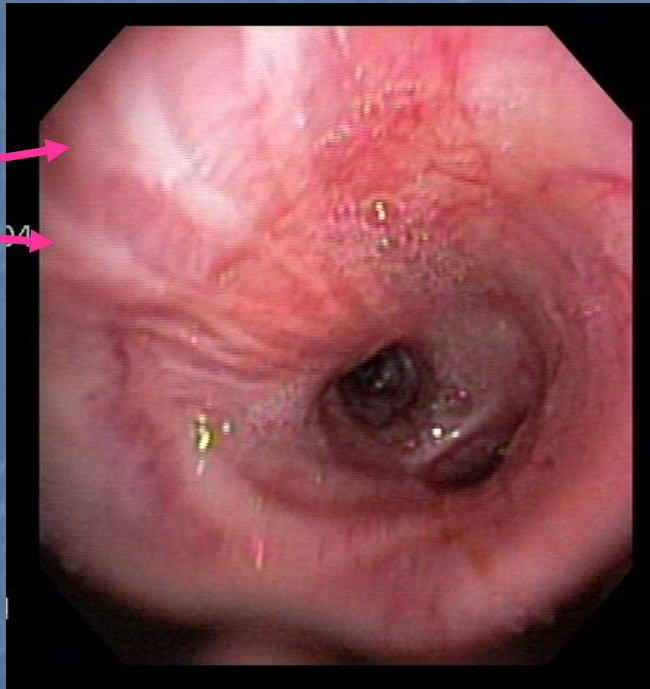


Swelling on spur

Biopsies all normal. No subsequent pathology noted

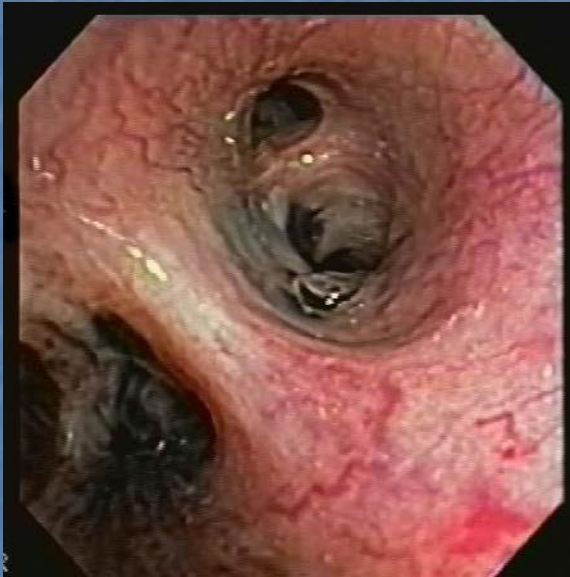
# Prominent longitudinal elastic bundles

Posterior wall  
of bronchus





# Anthrocosis

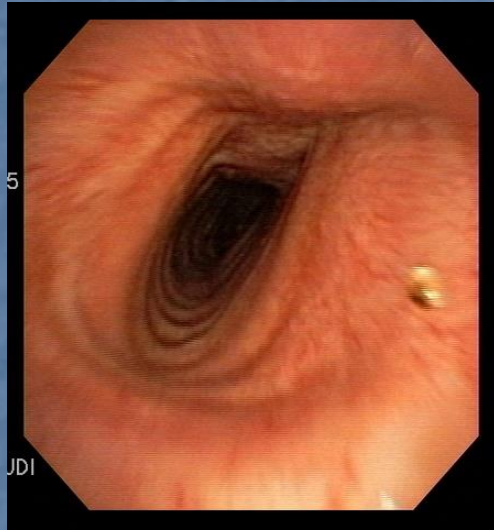


With hyperemia



With stenosis and edema

# Tracheal cartilage variants

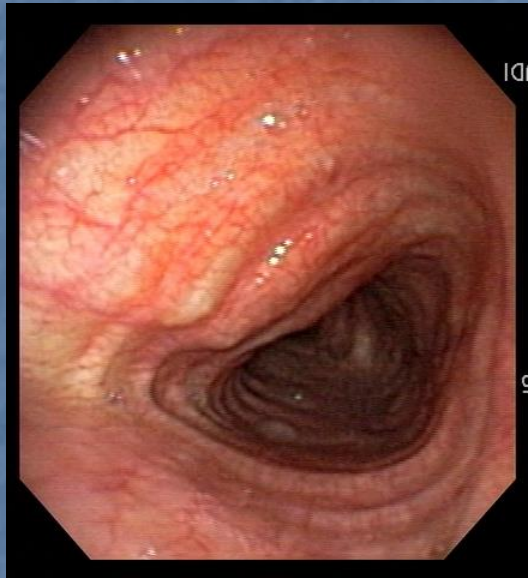


Saber sheath

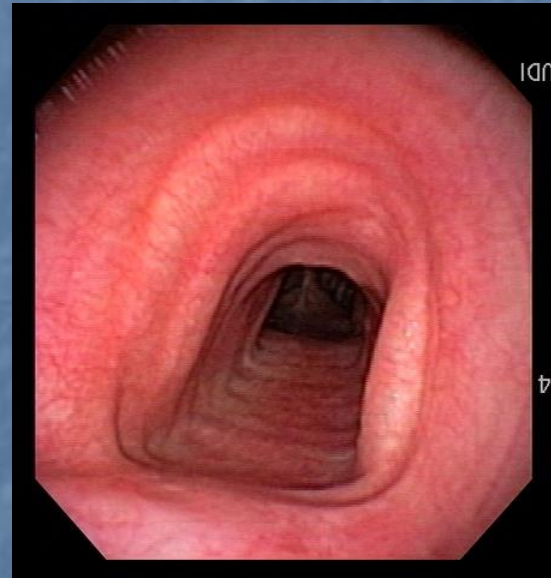


Bony protuberance

# More tracheal variants



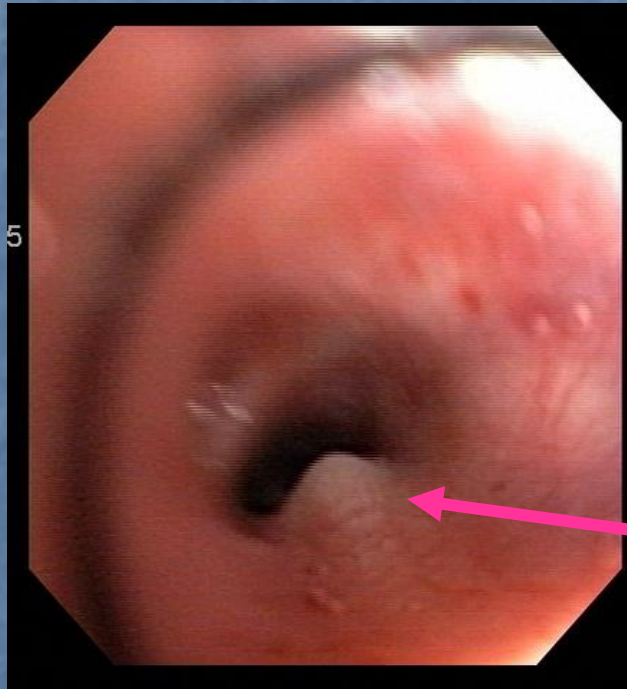
V-shaped trachea



U-shaped trachea



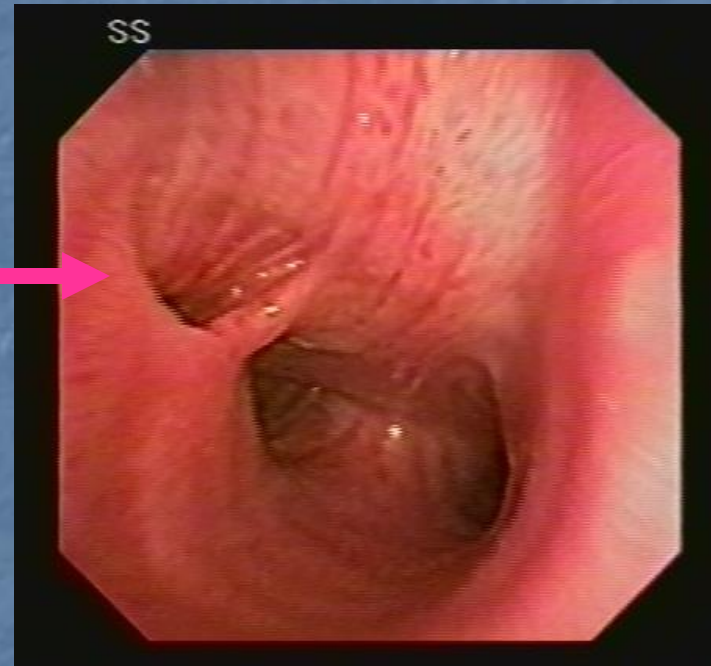
# Cartilaginous spur Left main bronchus



With pale overlying mucosa  
The Patient had bronchitis

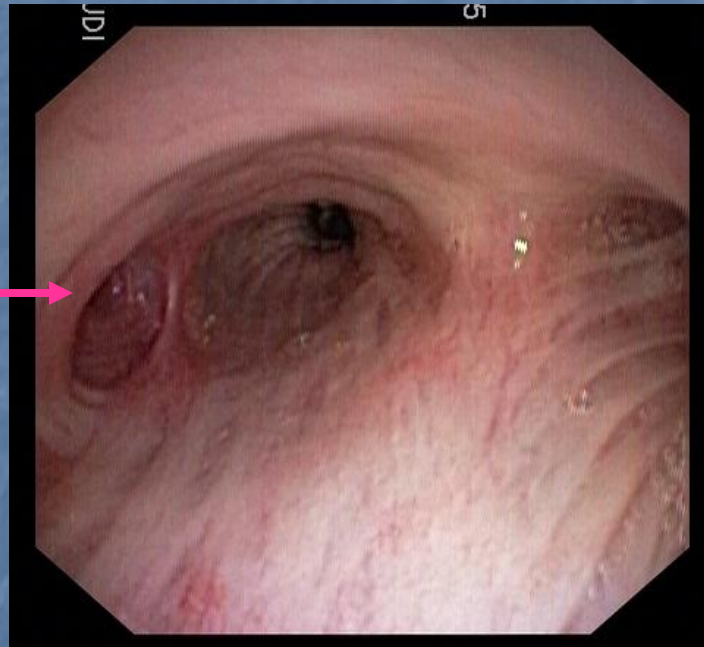
# Tracheal bronchus

Tracheal bronchus orifice is almost two centimeters above the main carina, along Right lateroposterior tracheal wall.



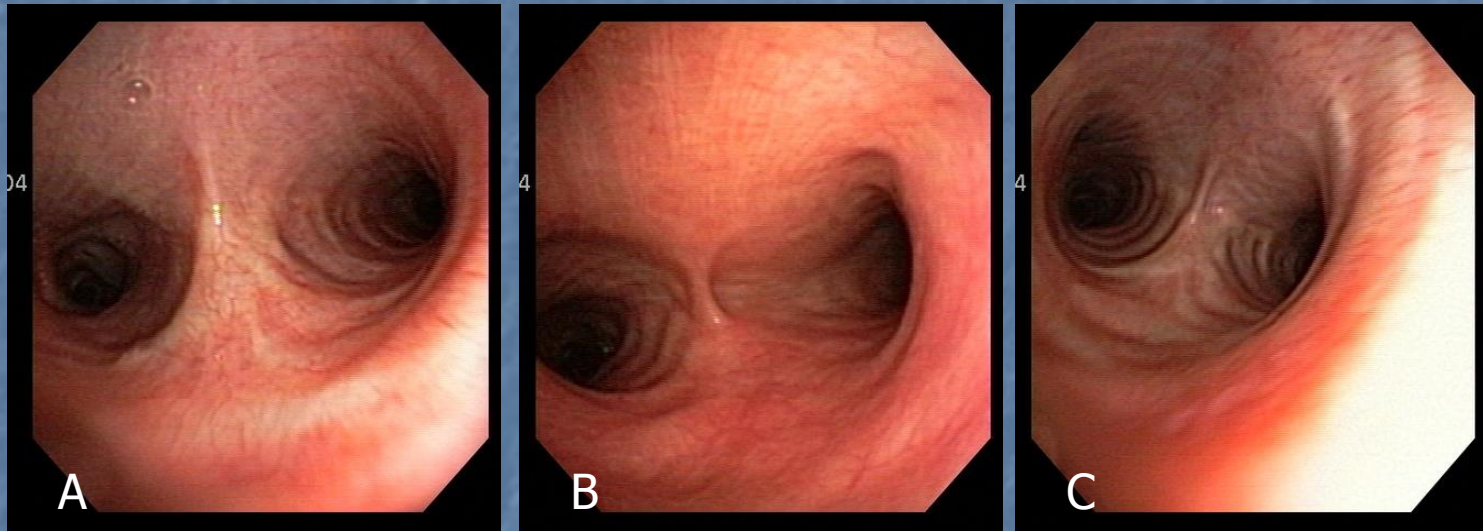
# Tracheal bronchus

Tracheal bronchus orifice at level of carina and at entrance to the Right main bronchus



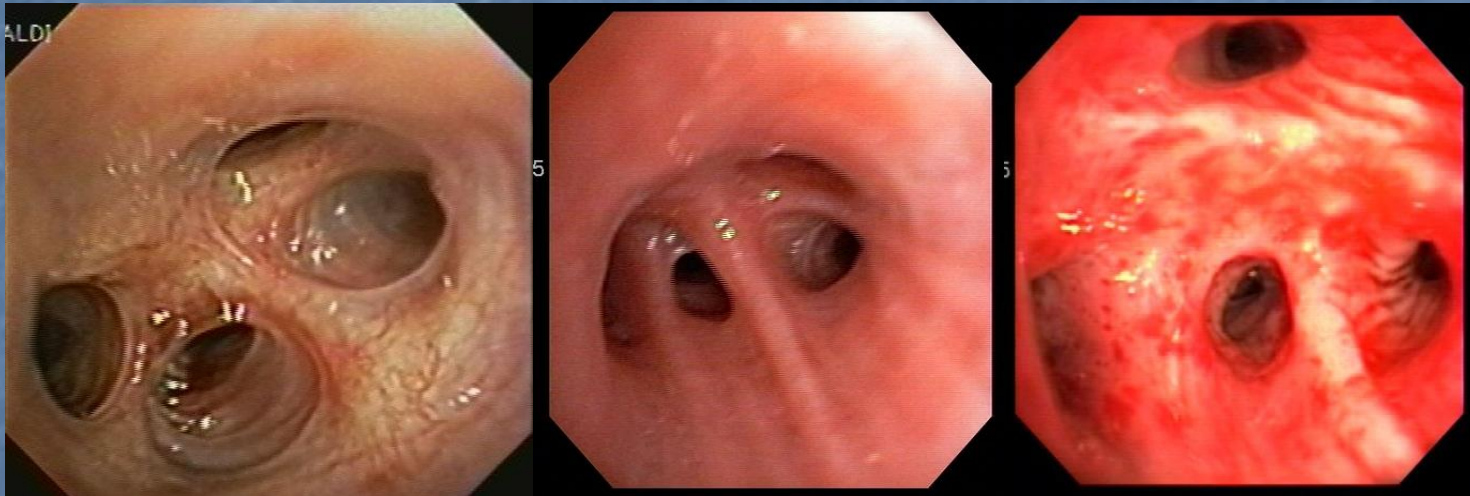


# Carina shapes



Normal, but different. Note slight infolding (normal during expiration) in photo B

# Normal variants of Right upper lobe segmental bronchial anatomy



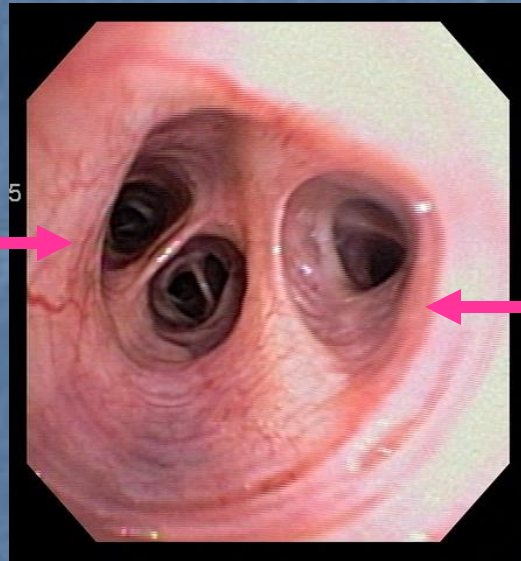
Box-like  
Quadripartite  
upper lobe

Linear quadripartite  
configuratlion RUL

Pyramid-like  
Quadripartite  
RUL upper lobe

# Right middle lobe bronchus variant

Immediate bipartite  
configuration medial  
segment of RML bronchus

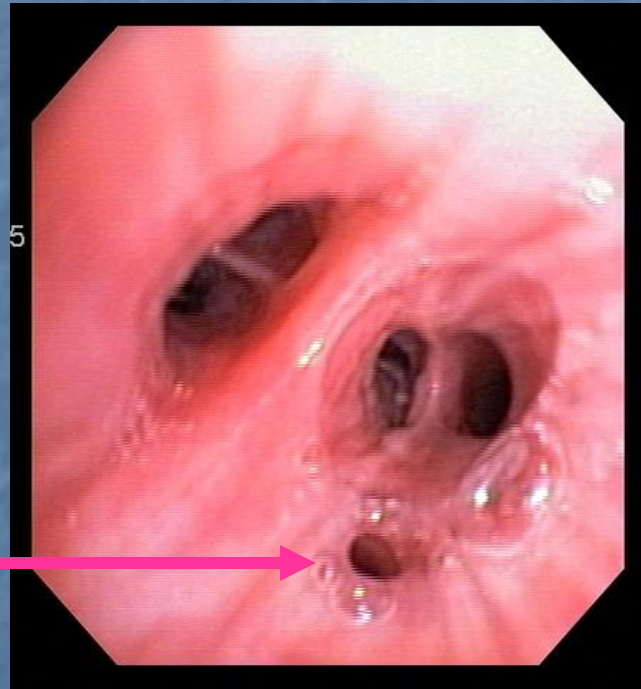


Lateral segment  
RML bronchus

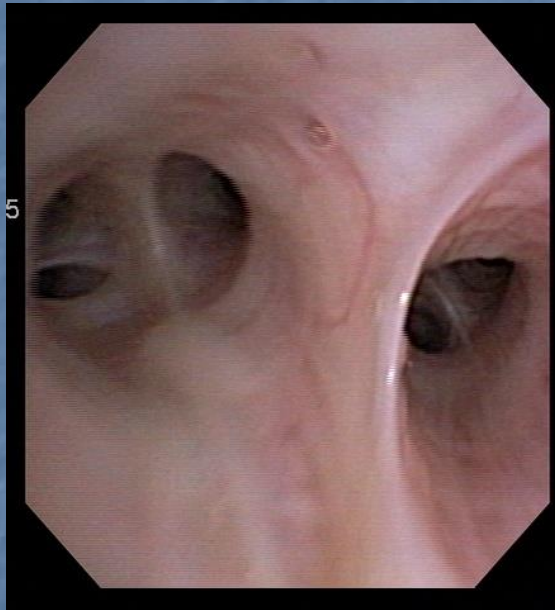


# Right lower lobe bronchus variant

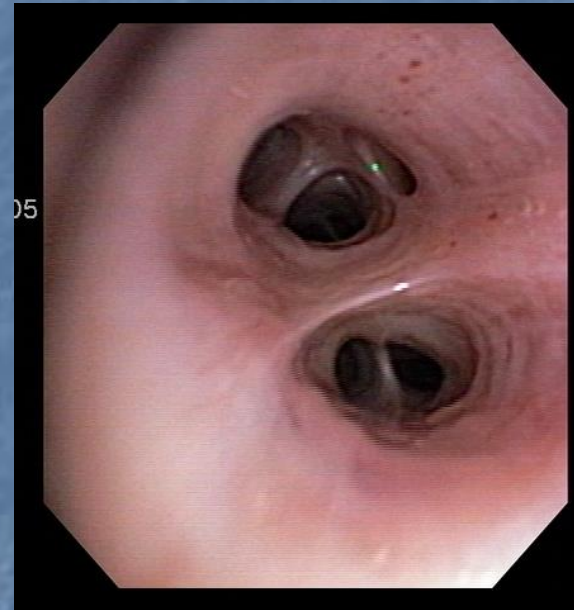
Small medial basal  
segment RB7)



# Bipartite variants

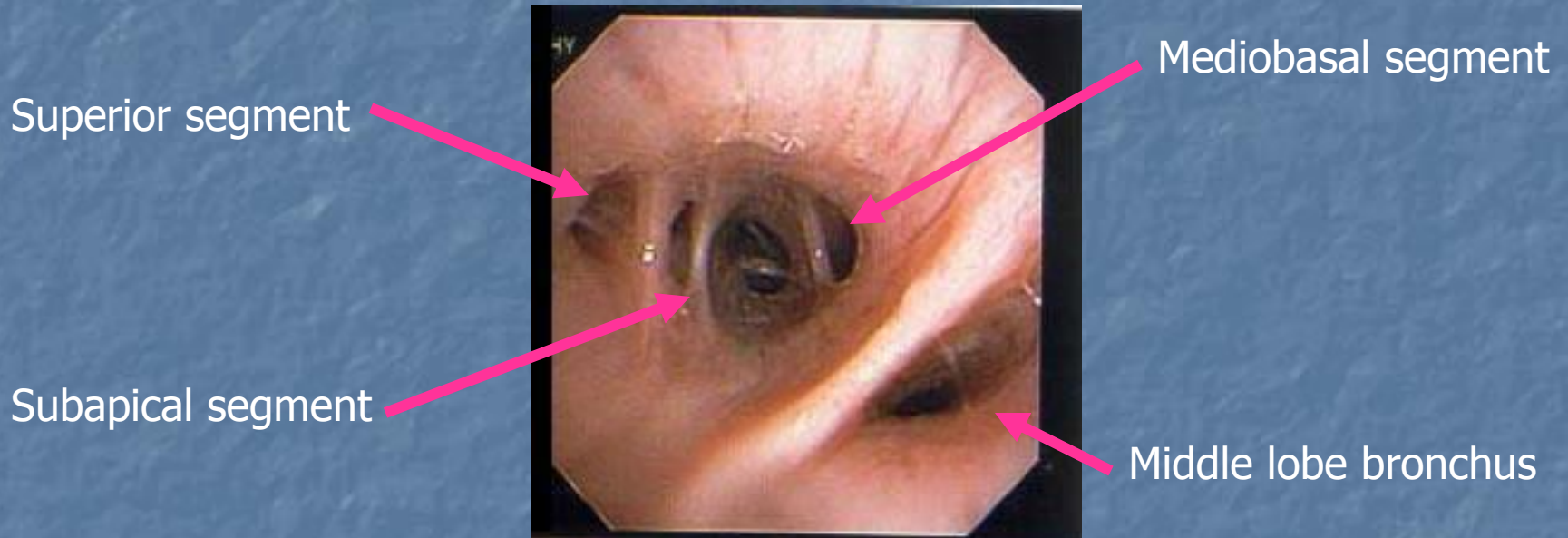


Right upper lobe bronchus



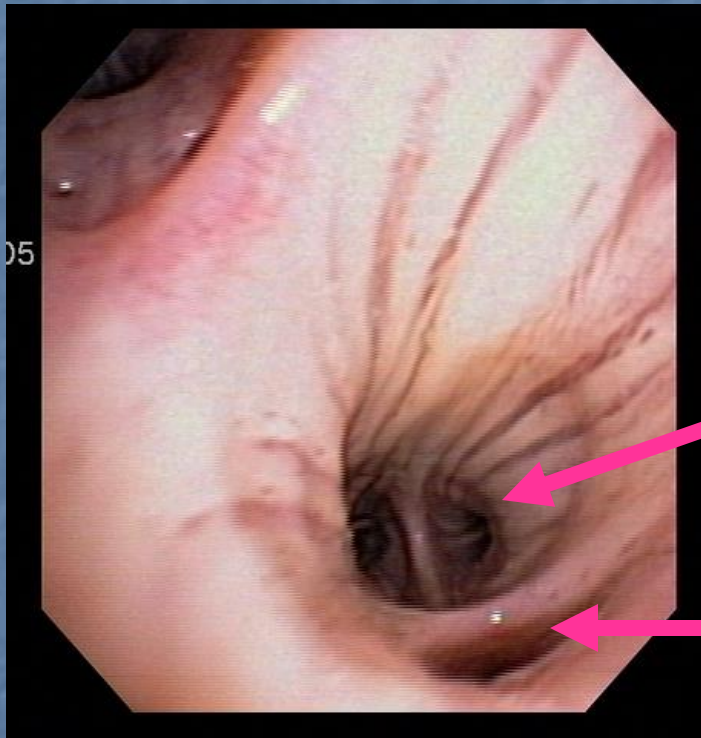
Right lower lobe bronchus

# Subapical segment of the Right lower lobe bronchus





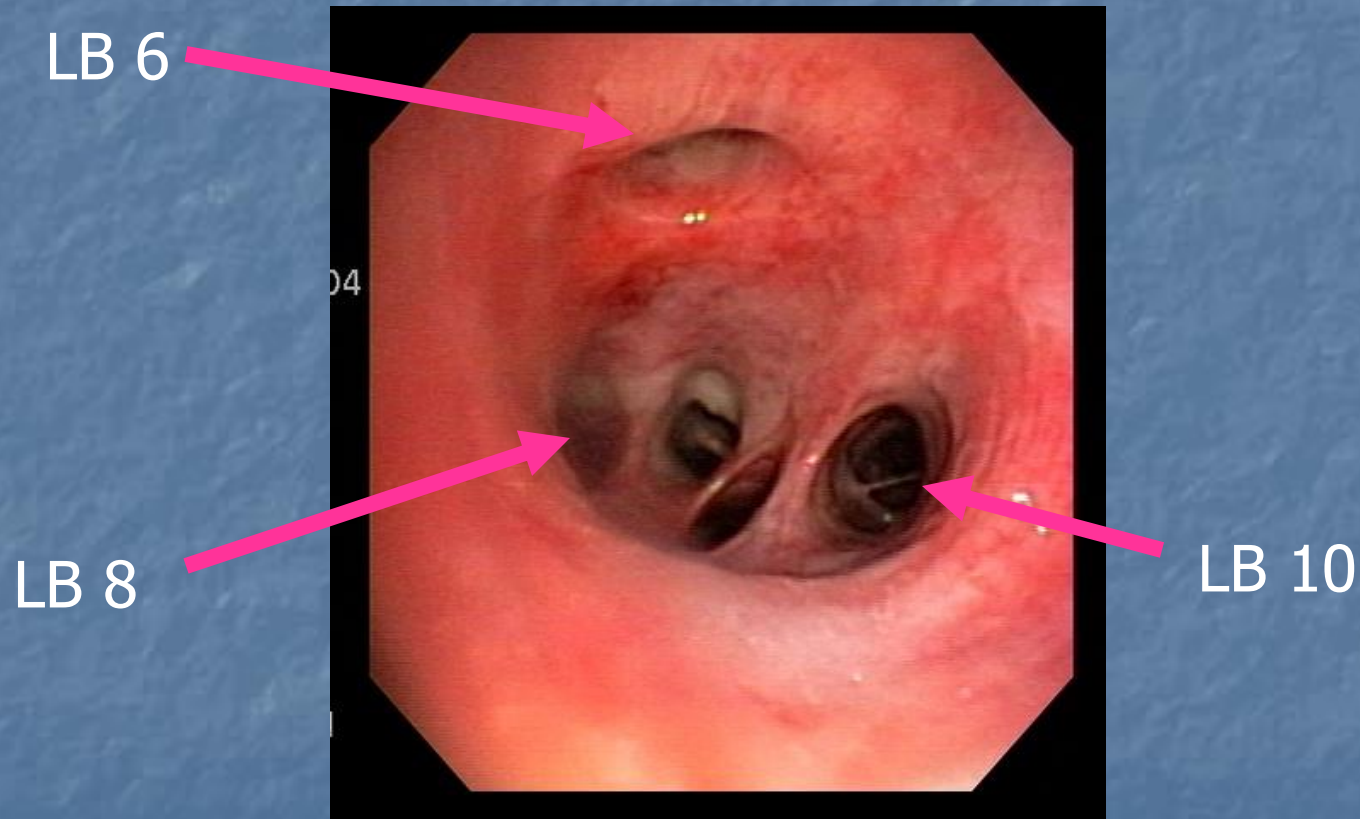
# Left lower lobe bronchus with right sided configuration



Left lower lobe basal pyramid

Medial basal segment LB 7

# Linear configuration of left lower lobe basal segments



This presentation is part of a comprehensive curriculum for Flexible Bronchoscopy. Our goals are to help health care workers become better at what they do, and to decrease the burden of procedure-related training on patients.



## The Essential Bronchoscopist



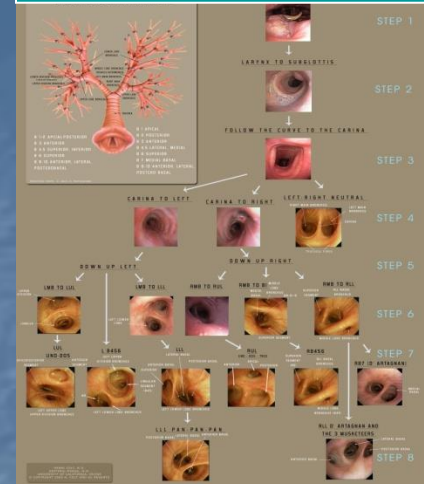
MODULE 1

# A new curriculum

Assured competency and proficiency

1. Web-based Self-learning study guide.
2. Computer-based simulations, didactic lectures, and image encyclopedia.
3. Bronchoscopy step-by-step©: Practical exercises, skills and tasks, competency testing.
4. Guided apprenticeship.
5. Learning the art of Bronchoscopy.

## Step by Step©



**The Art of Bronchoscopy**

**8 Basic Principles**

1. The bronchoscope wants to do the bronchoscopy
2. Stay in the midline (Get off the wall).
3. Moderation in everything; slow down, think, act.
4. If you don't know where you are you probably shouldn't be there
5. Force is wrong. Return to what you know; then move on and grow.
6. Slow down to finish faster.
7. Treasure basic values: peace, harmony and kindness
8. You and the bronchoscope are one

DEMOCRATIZATION AND  
GLOBALIZATION OF KNOWLEDGE



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Thank you