

## Step by Step©

## STEP 8

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# Main Objectives

- To learn bronchoscopic techniques using an approach similar to learning to dance, play tennis or play a musical instrument.
  - To develop “muscle memory”
  - To develop a “systematic approach” to bronchoscopic inspection.
- To learn how to handle the flexible bronchoscope and to accurately identify and enter lobar and segmental bronchial segments with ease.

- Para aprender las técnicas broncoscópicas utilizando un enfoque similar a aprender a bailar, jugar tenis o tocar un instrumento musical.
- Desarrollar la "memoria muscular"
- Para desarrollar un "enfoque sistemático" para inspección broncoscópica.
- Para aprender a manejar el broncoscopio flexible y de identificar con precisión y entrar en segmentos bronquiales lobulares y segmentarios con facilidad.

# ***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*

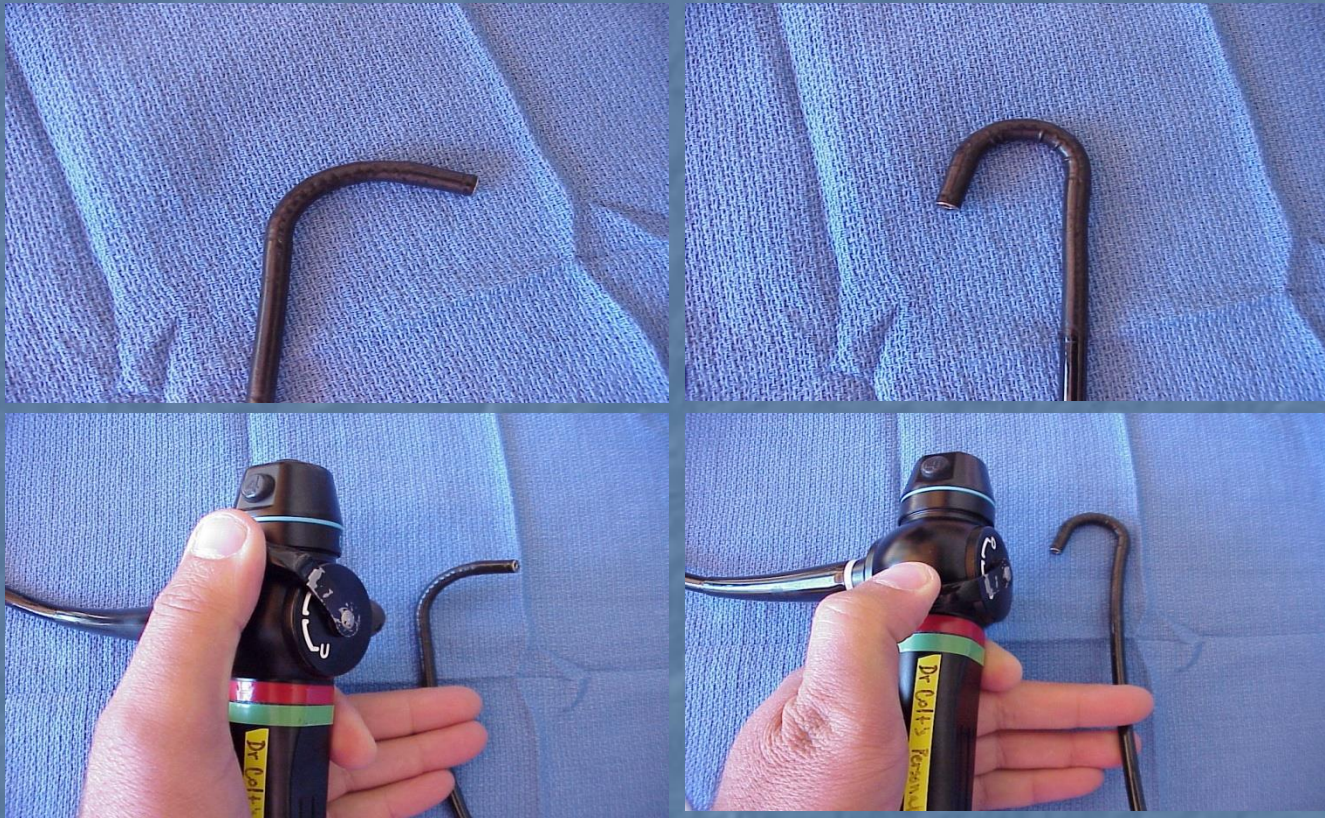


# 8 steps

# Bronchoscopy exercises

|                |                                                                                |                                                         |                                                             |
|----------------|--------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------|
| <b>Group 1</b> | Nose/mouth to larynx<br>Larynx to subglottis<br>Follow the curve to the carina | Carina to left<br>Carina to right<br>Left right neutral | Down-up right<br>Down-up left                               |
| <b>Group 2</b> | LMB to LLL<br>LMB to LUL                                                       | RMB to RLL<br>RMB to BI<br>RMB to RUL                   | Larynx to RLL<br>Larynx to LLL                              |
| <b>Group 3</b> | LLL pan pan pan<br>LUL uno dos<br>LLL B6-8910                                  | LB456<br>RB456<br>RLL medio-basal (D'Artagnan)          | RLL D'Artagnan and the three musketeers<br>RUL uno dos tres |

# Background A: Flexion-Extension



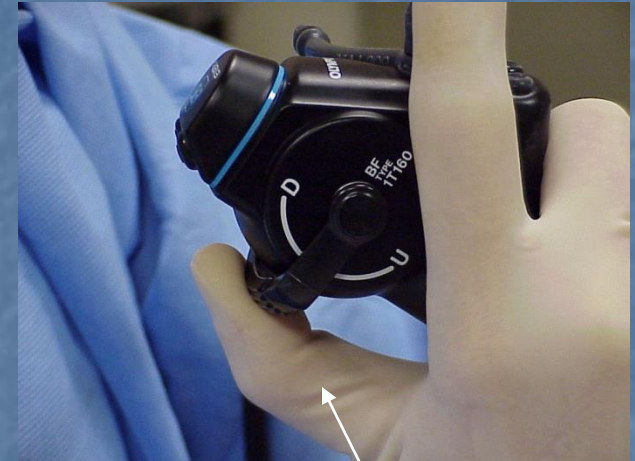
Extension

Flexion

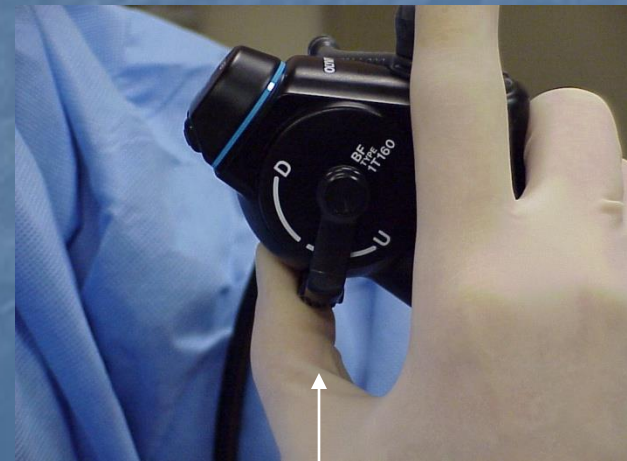
# Background B: Down-Neutral-Up positions



Lever down



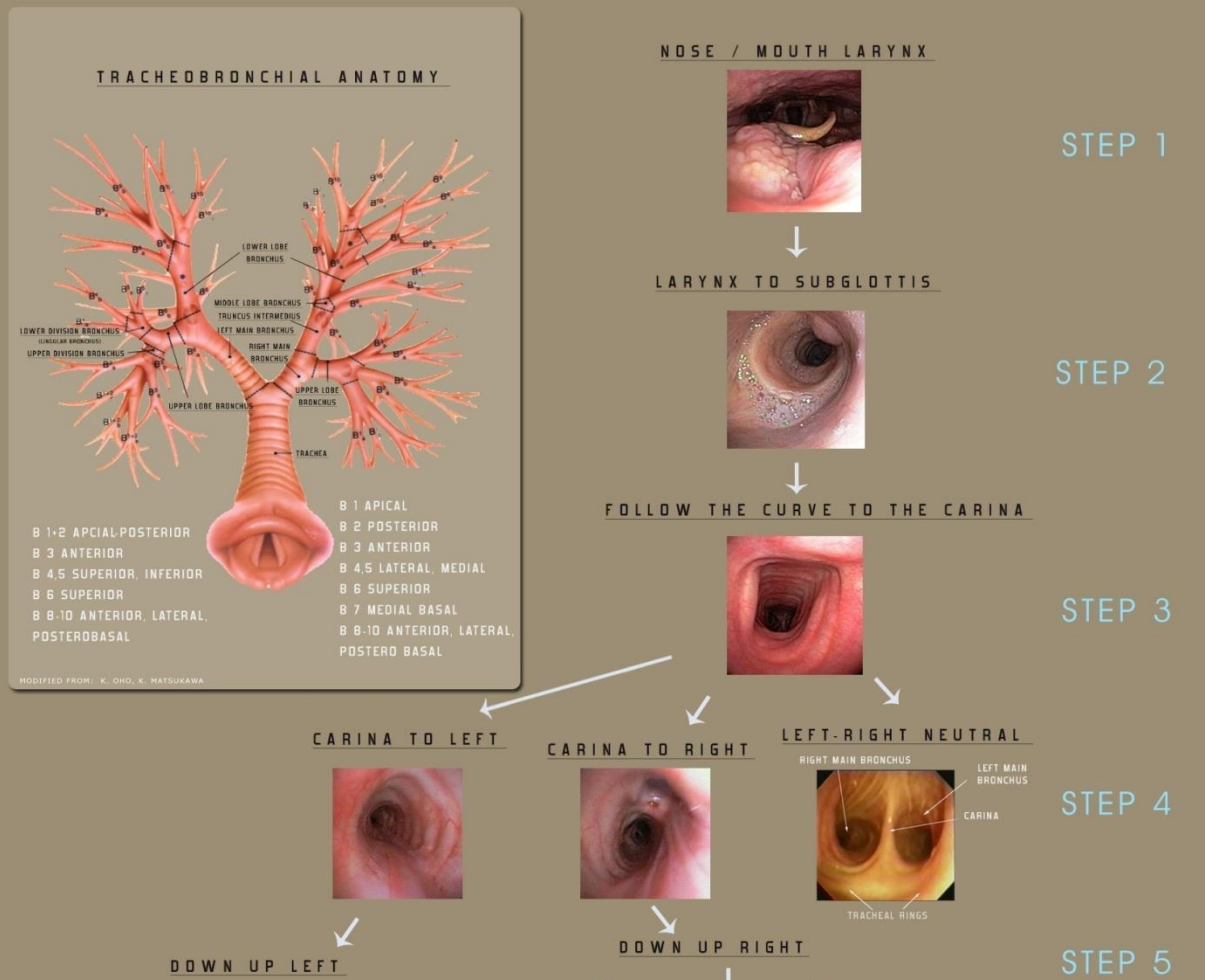
Lever straight (Neutral)



Lever up

# Group 1 Exercises

## ● BRONCHOSCOPY STEP BY STEP ●

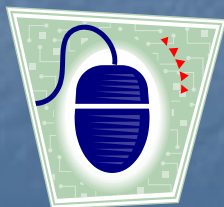


# Step 1: nose to larynx

- The scope is advanced from the nose to the larynx .
- This step includes local anesthesia.

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From the head

# Step 2: larynx to subglottis

- From the larynx the trachea is entered to the subglottic area.
- **If from the head:**  
once the vocal cords are passed the scope is slightly flexed downwards.
- **If from the front:**  
once the vocal cords are passed the scope is slightly flexed upwards.

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From the front

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# Step 3: Follow the curve to the carina

- The Trachea is not a "straight pipe";
- It deviates posteriorly and slightly to the right when approaching the main carina.

La tráquea no es un "tubo recto";  
Se desvía posteriormente y  
ligeramente a la derecha al  
acercarse a la carina principal

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From the head

# Step 4a: Carina to left main bronchus

- From the neutral position the LMB is entered just by twisting the wrist to the left and advancing for 1 -2 cm.

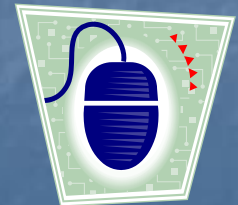


From head

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Desde la posición neutral de la LMB se introduce simplemente haciendo girar la muñeca a la izquierda y avanzar para 1 -2 cm.

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# Step 4b: Carina to right main bronchus

- From the neutral position the RMB is entered just by twisting the wrist to the right and advancing the scope for 1 -2 cm.



From head

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desde la posición neutra el RMB se introduce simplemente haciendo girar la muñeca a la derecha y hacer avanzar el alcance de 1 -2 cm.

Click to continue



# Step 4c: Left-right-neutral



Click to  
continue

- From the neutral position the left and right main bronchi are entered alternatively just by twisting the wrist and advancing the scope for few cm.

From head

Desde la posición neutral los bronquios principales izquierdo y derecho se introducen alternativamente con sólo girar la muñeca y el avance del FBC por pocos cm.

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# Step 5a: Down-up-left main bronchus

- The scope is slowly advanced the pulled back up the LMB while always keeping it in the middle of the airway lumen.

El FBC se avanzó lentamente el jalado por dedbajo el LMB mientras que siempre se mantiene en el medio de la vía aérea lumen

From the front

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# Step 5b: Down-up right main bronchus

- The scope is slowly advanced down the RMB to RLL and pulled back upwards while always keeping it in the middle of the airway lumen.

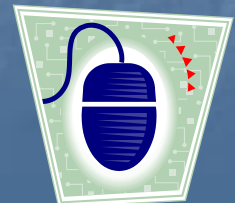
El FBC se avanza lentamente a través de la RMB a RLL y hacia atrás hacia arriba mientras se mantiene siempre en el centro del lumen de las vías respiratori

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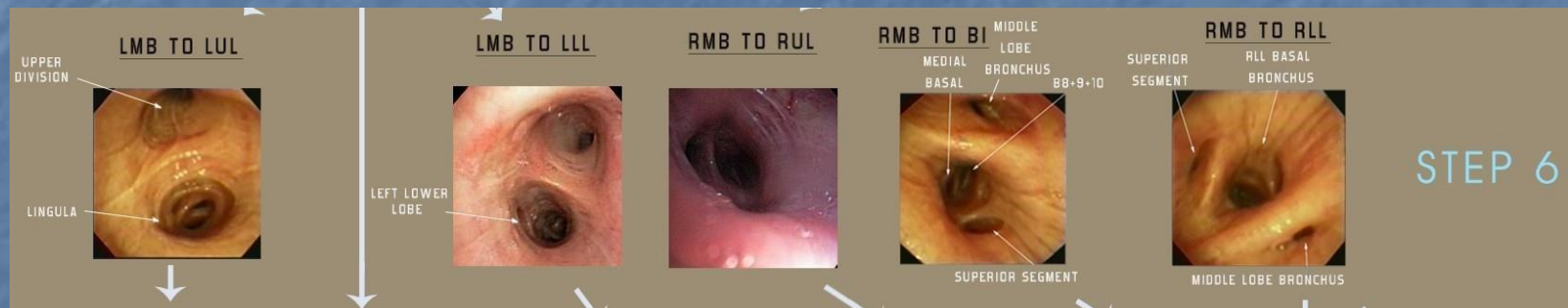


From the front

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# Group 2 Exercises



# Step 6a: Left main to left upper lobe bronchus

- From the LMB the scope is advanced to the entrance of the LUL bronchus.

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From the front

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# Step 6b: Left main to left lower lobe bronchus

- The scope is advanced down the LMB to the entrance of the LLL bronchus.

El ámbito de aplicación se hace avanzar hacia abajo el BIR a la entrada del bronquio LLL

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From the front

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# Step 6c: Right main to right upper lobe bronchus

- The scope is advanced down the RMB then with the wrist twisted 60 degrees from midline the scope is flexed up to the entrance of RUL.

El ámbito de aplicación se hace avanzar hacia abajo el RMB entonces con la muñeca torcida 60 grados de la línea media se flexiona el ámbito de aplicación hasta la entrada de RUL.

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From the front

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# Step 6d: Right main to bronchus intermedius

- From the carina advance the scope down the RMB to the distal bronchus intermedius and visualize the entrance to RB456 and the basal pyramid.

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From the front

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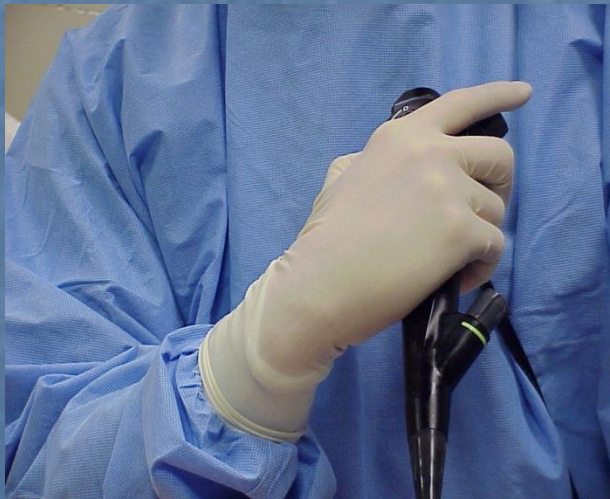


# Step 6e: Right main to right lower lobe bronchus

- Advance the scope from the carina to the entrance of the RLL while always keeping it in the midline.

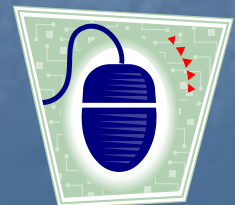
Avanzar en el alcance de la carina a la entrada de la RLL mientras que siempre se mantiene en la línea media

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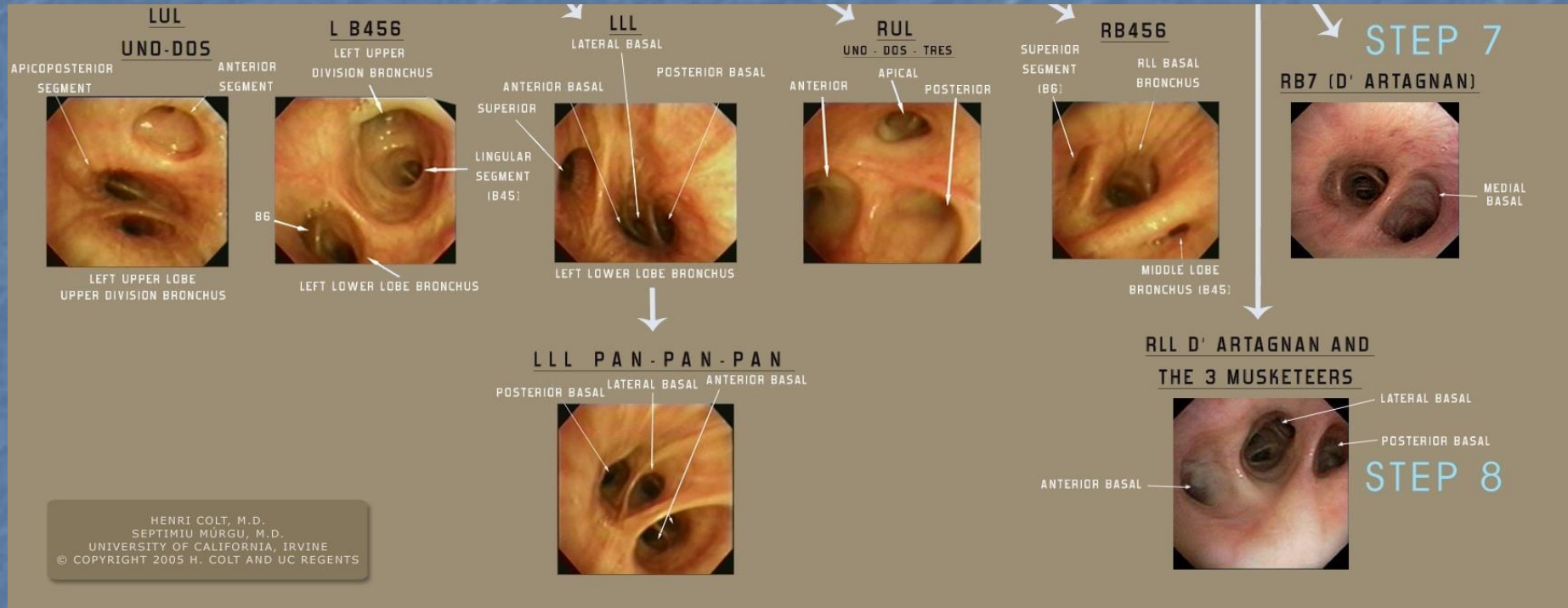


From the front

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# Group 3 Exercises



# Step 7a: Left upper lobe uno dos

- From the carina, the scope is advanced to LUL entrance; there, just by thumb movement, the lingula and upper division bronchus are visualized.



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A partir de la carina, el ámbito es avanzado hasta la entrada LUL; allí, sólo por el movimiento del pulgar, el bronquio división llingula y superior se visualizan

From the head

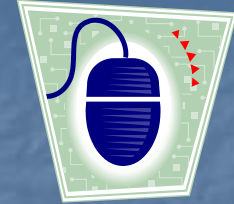
Click to continue



# Step 7b: Left before five six (LB 456)

- From the LMB, the lingula is entered, then the scope is pulled back into the distal LMB and the scope is advanced into the superior segment of the LLL.
- ! Wrist movements are "in the mirror"

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Desde la LMB, la l ngula se introduce, el  mbito se tira de nuevo en la LMB distal y el alcance se introduce en el segmento superior de la LLL.

! Los movimientos de la mu eca son "en el espejo"

From the head

# Step 7c: Left B6-8,9,10

- With the scope at the LLL bronchus entrance, the superior segment is entered, then alternately, the antero, lateral and postero-basal segments of the LLL are entered.

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Con el alcance a la entrada LLL bronquios, el segmento superior se introduce, a continuación, alternativamente, el antero, los segmentos laterales y postero-basal de la LLL se introducen

Click to continue

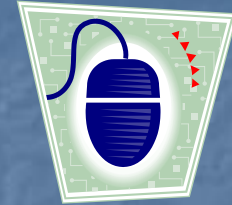


From the head

# Step 7d: Right upper lobe uno-dos-tres

- From the RMB the scope is advanced and flexed up into the RUL bronchus where just by wrist and thumb movements the three segments are visualized; then the scope is withdrawn to the main carina.

Click to continue



From the head

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Desde el RMB el alcance es avanzado y flexiona hasta en el bronquio RUL donde sólo por movimientos de la muñeca y del pulgar de los tres segmentos se visualizan, a continuación, el ámbito de aplicación se retira a la carina principal.

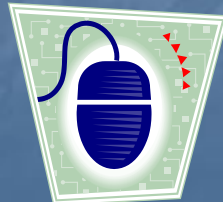
# Step 7e: Right before five six (RB 4,5,6)

- From the distal bronchus intermedius, the RML and superior segment are entered alternatively;
- ! Wrist movements are "in the mirror".

Desde el distal bronquio intermedio, el segmento de RML y superior se introducen alternativamente;  
! Los movimientos de la muñeca son "en el espejo"

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From the head

# Step 7f: Right medial basal (RB7) (d"Artagnan)

- From the distal bronchus intermedius the scope is advanced and the medio-basal segment is entered.

Desde el bronquio intermedio distal del ámbito se avanza y el segmento medio-basal se entró.

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From the front

# Step 8a: Left lower lobe basal pyramid

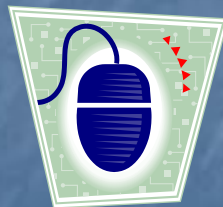
- From the entrance of the LLL bronchus go in and out of the 3 basal segments, then withdraw the scope to the carina.

Pan - Pan - Pan

[Click HERE to view video](#)

Desde la entrada del bronquio LLL entrar y salir de los 3 segmentos basales, a continuación, retirar el alcance de la carina.

Click to continue



From the head

# Step 8b: Right lower lobe basal pyramid (D'Artagnan and the three musketeers)

- From the carina advance the scope to the RLL bronchus entrance and then enter the medial-basal segment, pull back and then examine the other three segments of the basal pyramid.

Desde el avance carina ámbito de aplicación a la entrada RLL bronquio y luego entrar en el segmento medio-basal, tire hacia atrás y luego examinar los otros tres segmentos de la pirámide basal.

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From the front



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11/1/2014

*STAY OFF THE WALL*

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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.

Esta presentación forma parte de un amplio plan de estudios para la broncoscopia flexible. Nuestro objetivo es ayudar a los trabajadores de atención de salud a ser mejores en lo que hacen, y para disminuir la carga de procedimiento relacionadas con la formación en los pacientes.

## The Essential Bronchoscopist



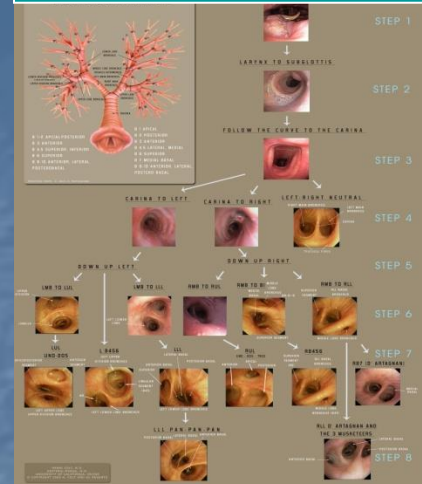
MODULE 1

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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).
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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

## BRONCHATLAS©



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