المستجدات
في تدبير COPD
" GOLD 2023"

د غانيا جديد

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GOLD
2023

UPDATES IN STABLE COPD MANAGEMENT

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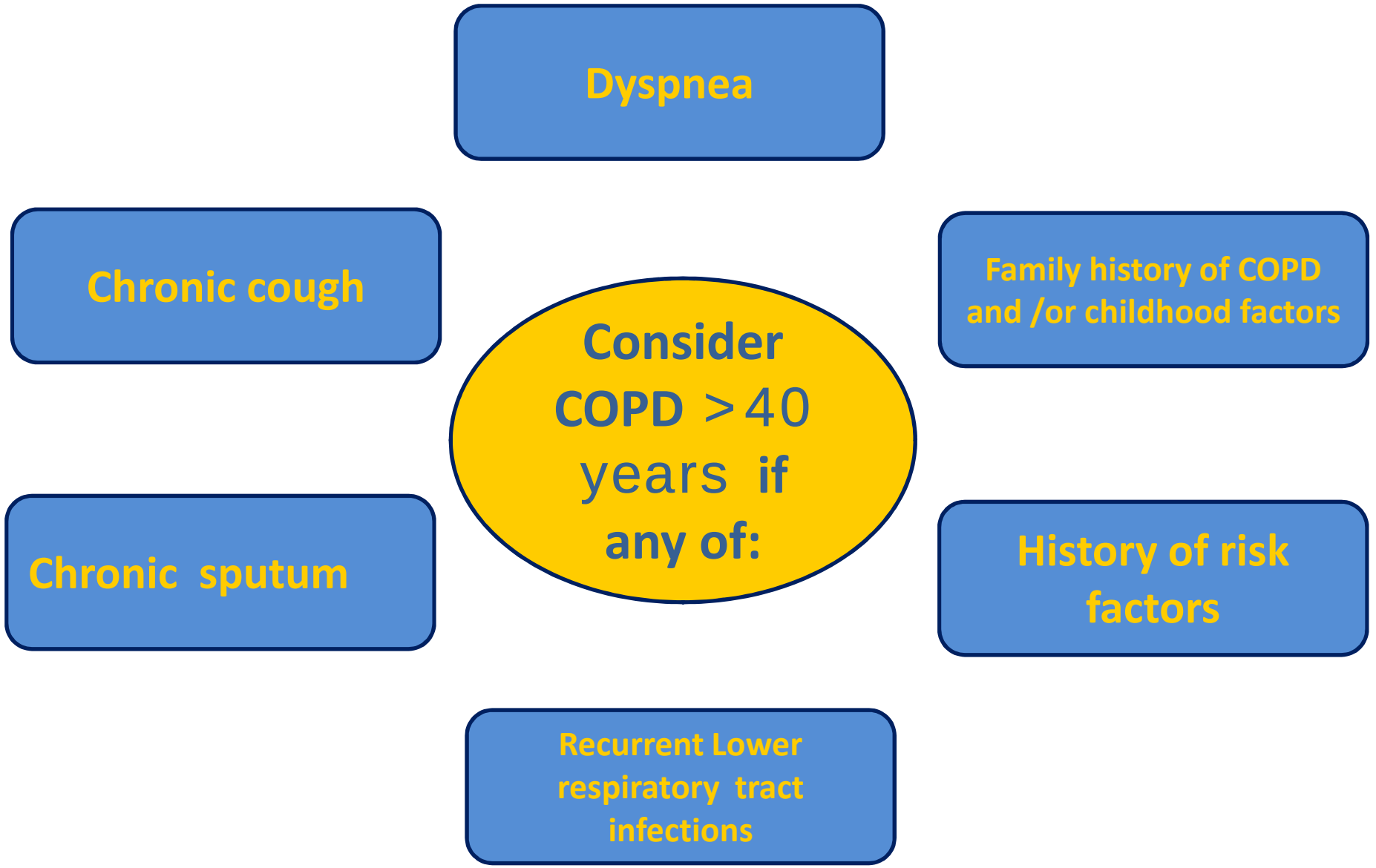

Dyspnea
Chronic cough
Family history of COPD and /or childhood factors
Consider COPD >40 years if any of:
Chronic sputum
History of risk factors
Recurrent Lower respiratory tract infections

Diagnosis

FEV1/FVC <0.7

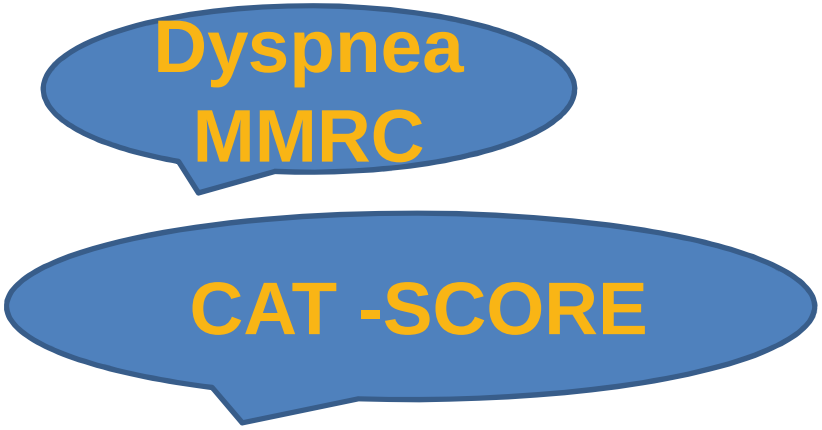
Post - Bronchodilator

Classification

- **Severity of airflow limitation GOLD**

- **Moderate or Severe Exacerbation History**

- **Assessment of symptoms:**



CLASSIFICATION OF AIRFLOW LIMITATION SEVERITY IN COPD (BASED ON POST-BRONCHODILATOR FEV_1)

In patients with FEV1/FVC < 0.70:

GOLD 1:	Mild	$FEV_1 \geq 80\%$ predicted
GOLD 2:	Moderate	$50\% \leq FEV_1 < 80\%$ predicted
GOLD 3:	Severe	$30\% \leq FEV_1 < 50\%$ predicted
GOLD 4:	Very Severe	$FEV_1 < 30\%$ predicted

MODIFIED MRC DYSPNEA SCALE[a]

PLEASE TICK IN THE BOX THAT APPLIES TO YOU | ONE BOX ONLY | Grades 0 - 4

mMRC Grade 0.	I only get breathless with strenuous exercise.	☐
mMRC Grade 1.	I get short of breath when hurrying on the level or walking up a slight hill.	☐
mMRC Grade 2.	I walk slower than people of the same age on the level because of breathlessness, or I have to stop for breath when walking on my own pace on the level.	☐
mMRC Grade 3.	I stop for breath after walking about 100 meters or after a few minutes on the level.	☐
mMRC Grade 4.	I am too breathless to leave the house or I am breathless when dressing or undressing.	☐

[a] Fletcher CM. BMJ 1960; 2: 1662.

CAT™ ASSESSMENT

For each item below, place a mark (x) in the box that best describes you currently.
Be sure to only select one response for each question.

EXAMPLE: I am very happy	0 **X** 2 3 4 5	**I am very sad**	**SCORE**
I never cough	0 1 2 3 4 5	**I cough all the time**	
I have no phlegm (mucus) in my chest at all	0 1 2 3 4 5	**My chest is completely full of phlegm (mucus)**	
My chest does not feel tight at all	0 1 2 3 4 5	**My chest feels very tight**	
When I walk up a hill or one flight of stairs I am not breathless	0 1 2 3 4 5	**When I walk up a hill or one flight of stairs I am very breathless**	
I am not limited doing any activities at home	0 1 2 3 4 5	**I am very limited doing activities at home**	
I am confident leaving my home despite my lung condition	0 1 2 3 4 5	**I am not at all confident leaving my home because of my lung condition**	
I sleep soundly	0 1 2 3 4 5	**I don't sleep soundly because of my lung condition**	
I have lots of energy	0 1 2 3 4 5	**I have no energy at all**	

TOTAL SCORE: ◯

Reference: Jones et al. ERJ 2009; 34 (3); 648-54.

CLASSIFICATION GOLD 2023 A B E

Spirometrically confirmed diagnosis → Assessment of airflow obstruction → Assessment of symptoms/risk of exacerbations

Post-bronchodilator FEV1/FVC < 0.7

GRADE	FEV1 (% predicted)
GOLD 1	≥ 80
GOLD 2	50-79
GOLD 3	30-49
GOLD 4	< 30

EXACERBATION HISTORY

- ≥ 2 moderate exacerbations or ≥ 1 leading to hospitalization
- 0 or 1 moderate exacerbations (not leading to hospitalization)

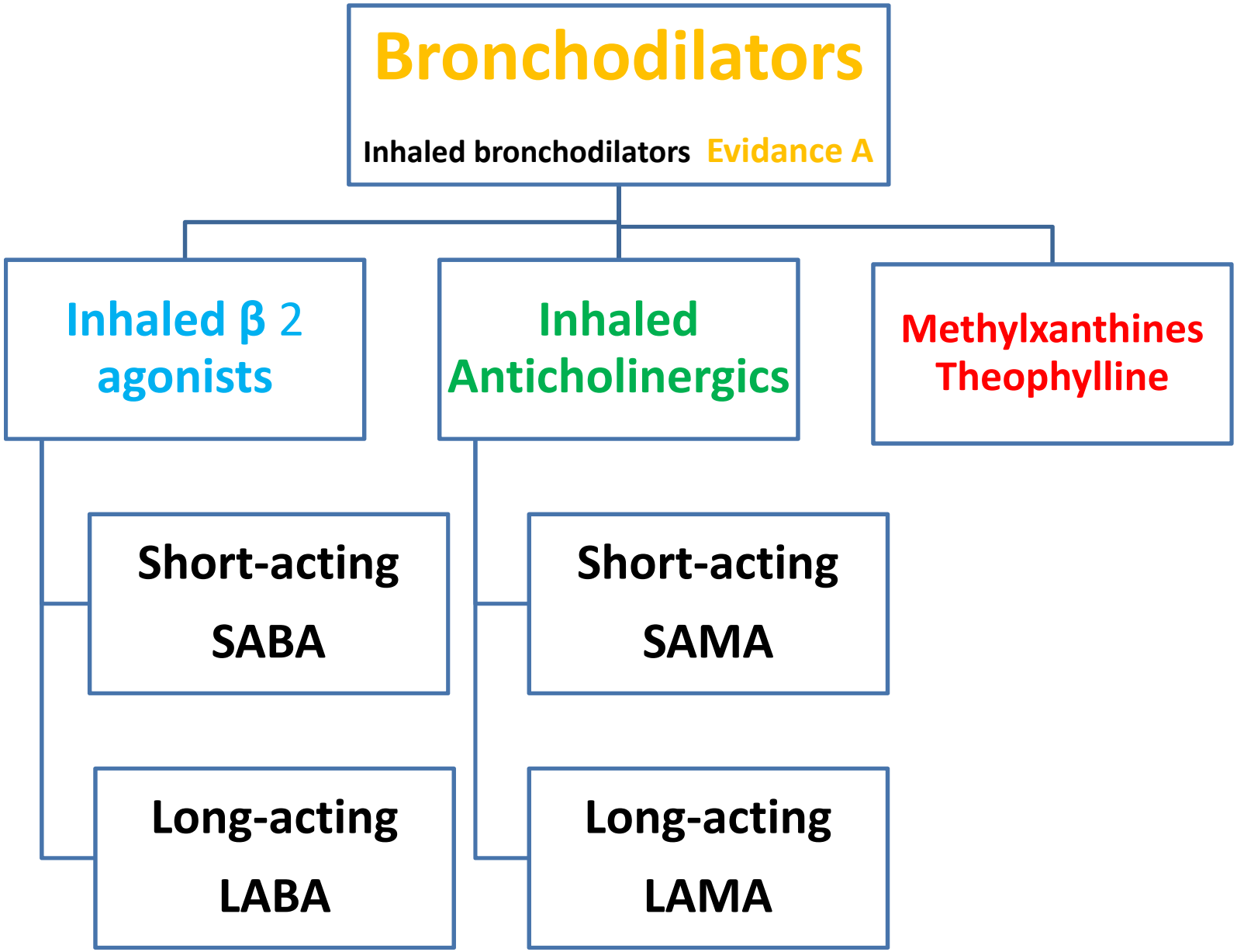
	E	
	A	B
	mMRC 0-1 CAT < 10	mMRC ≥ 2 CAT ≥ 10

SYMPTOMS

MANEGEMENT OF STABLE COPD


Improve patient symptoms
Improve exercise tolerance
quality of life
AIMES
Disease progression
exacerbations
mortality

Pharmacological Treatment


Bronchodilators
Inhaled bronchodilators Evidance A
Inhaled β 2 agonists
Inhaled Anticholinergics
Methylxanthines Theophylline
Short-acting SABA
Long-acting LABA
Short-acting SAMA
Long-acting LAMA

Combination bronchodilator therapy:

- SABA **+** SAMA → improving FEV_1 and symptoms **Evidance A**

- LABA +LAMA → improved lung function symptoms and quality of life **Evidance A**

Combination bronchodilator therapy:

- Long acting agents are preferred over short acting agents **Evidance A**

- LAMAS have greater effect on exacerbations reduction compared to LABA **Evidance A**

LABA +LAMA → ↓↓ exacerbations compared to monotherapy **Evidance B**

Anti-inflammatory agents

- **Inhaled corticosteroids (ICS)**
- **Not as monotherapy Evidance A**
- (LABA/LAMA/ICS and LABA/ICS:

- Triple TT LABA+LAMA+ICS more effective

Evidance A

FACTORS TO CONSIDER WHEN INITIATING ICS TREATMENT

· STRONG SUPPORT ·	· CONSIDER USE ·	· AGAINST USE ·
• History of hospitalization(s) for exacerbations of COPD[#] • ≥ 2 moderate exacerbations of COPD per year[#] • Blood eosinophils ≥ 300 cells/µL • History of, or concomitant, asthma	• 1 moderate exacerbation of COPD per year[#] • Blood eosinophils ≥ 100 to < 300 cells/µL	• Repeated pneumonia events • Blood eosinophils <100 cells/µL • History of mycobacterial infection

Anti-inflammatory agents

- **Oral corticosteroids not recommended**

side effect **Evidance A** , NO benefits **Evidance C**

- **Phosphodiesterase-4 (PDE4) inhibitors**
- (Roflumilast)→ Improvelung function +reduce exacerbations **Evidance A**
- in addition to LABA or LABA+ICS →

Anti-inflammatory agents

- Macrolides (Azithromycin) :

reduce exacerbations over one year Evidence A

- Long- term Azithromycin increase bacterila resistance Evidence A

Other Pharmacological Treatement

- Alpha 1 antitrypsin→Emphysema +severe hereditary alpha-1 antitrypsin deficiency
- Anti tussive → not recommended
- Drugs of primary HTAP→→not recommended

Initial Pharmacological Treatment

≥ 2 moderate exacerbations or ≥ 1 leading to hospitalization

GROUP E

LABA + LAMA*

consider LABA+LAMA+ICS if blood eos ≥ 300*

0 or 1 moderate exacerbations (not leading to hospital admission)

GROUP A

A bronchodilator

mMRC 0-1, CAT < 10

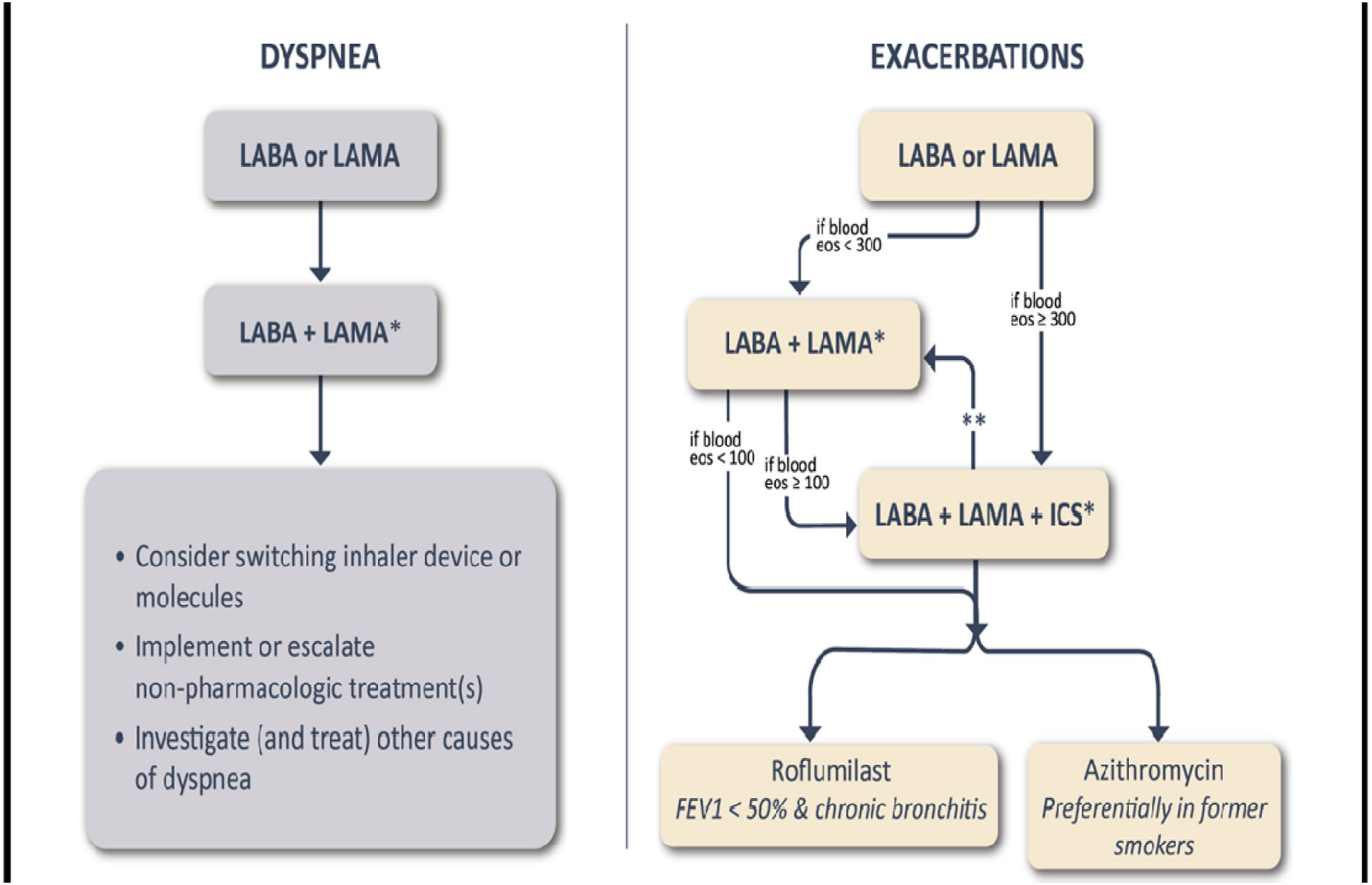
GROUP B

LABA + LAMA*

mMRC ≥ 2, CAT ≥ 10

*single inhaler therapy may be more convenient and effective than multiple inhalers

Follow up pharmacological treatment



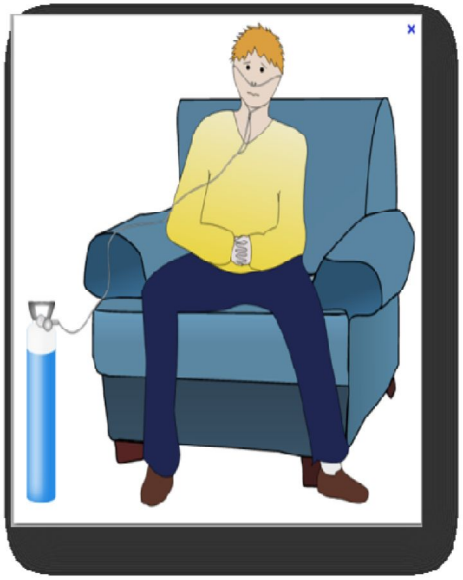
Non Pharmacological Treatment

- Smoking Cessation
- Reduction of other risk factors
- Vaccination
- Education
- Pulmonary Rehabilitation

- Nutrition
- Treatment of Hypoxemia
- Treatment Of Hypercapnia
- Intervention Bronchoscopy And Surgery

Oxygen Therapy

►**PO2**<55 mmhg or
►55< po2<60mmhg: right heart failure or erythrocytosis



Treatment of Hypercapnia

BIPAP

long-term non-invasive ventilation

↓ **mortality**

↓ **re-hospitalization**

Surgery

- Lung volume reduction Surgery LVRS
  → Upper Lobe- Emphysema
- Surgical Bullectomy
- Lung Transplantation

Lung Transplantation

- **Severe Emphysema** one of :
- History of hospitalisation for **exacerbation** with acute **hypercapnia**

- **HTP** or cor pulmonale despite O2 therapy

- **FEV1** < 20% and either DLCO < 20% or
- Homogenous distribution of emphysema

Bronchoscopic Interventions
Bronchoscopic Lung Volume Reduction
BLVR

↓ end –expiratory Lung Volume
At **6-12** Months following treatment

↑ exercise tolerance
Quality of life
Lung Function

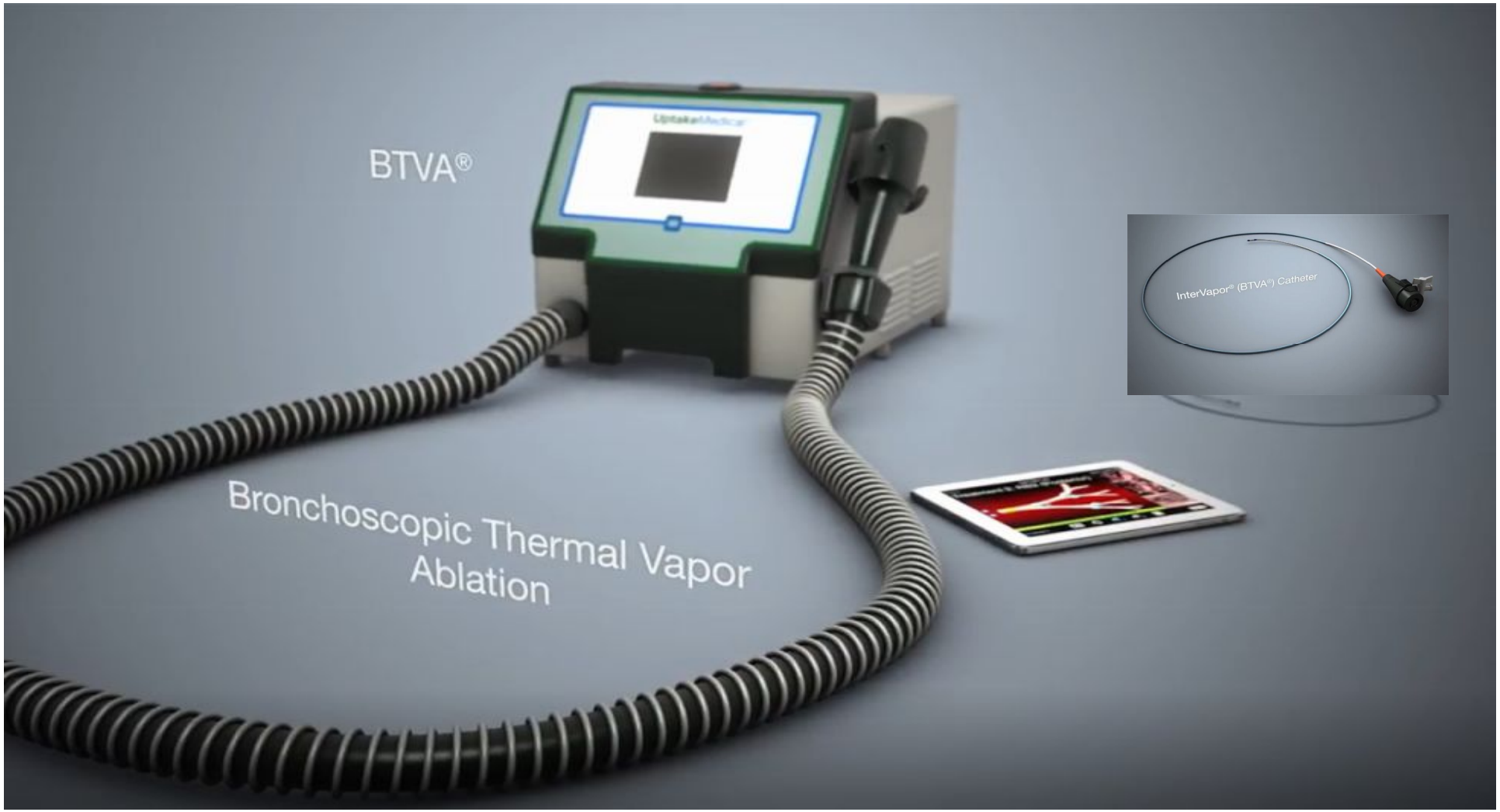
Bronchoscopic Interventions

Vapor Ablation

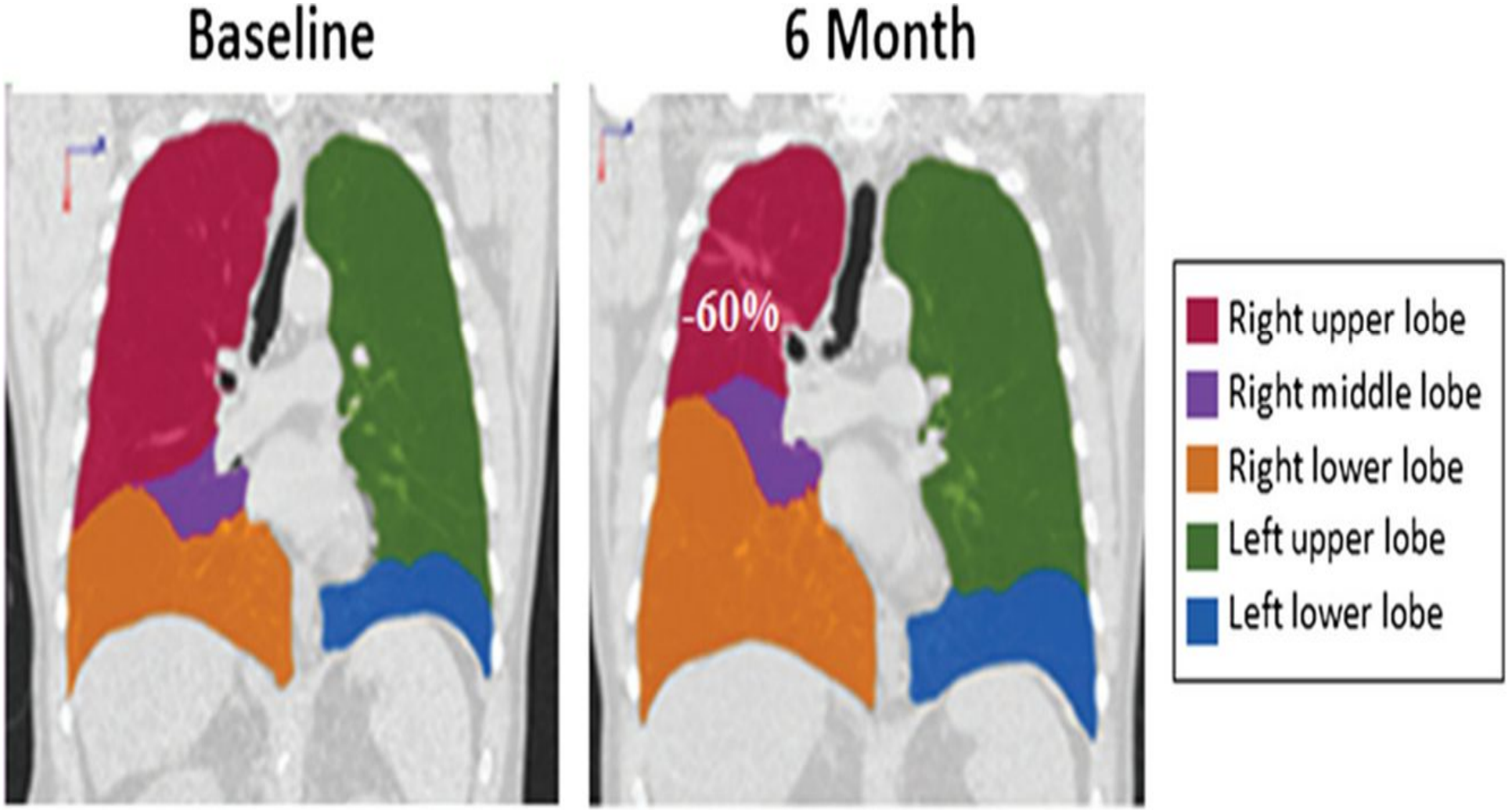
Lung Coils

Endobronchial Valves FDA approved

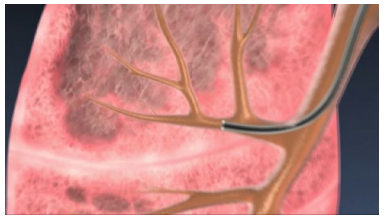
Vapor Ablation

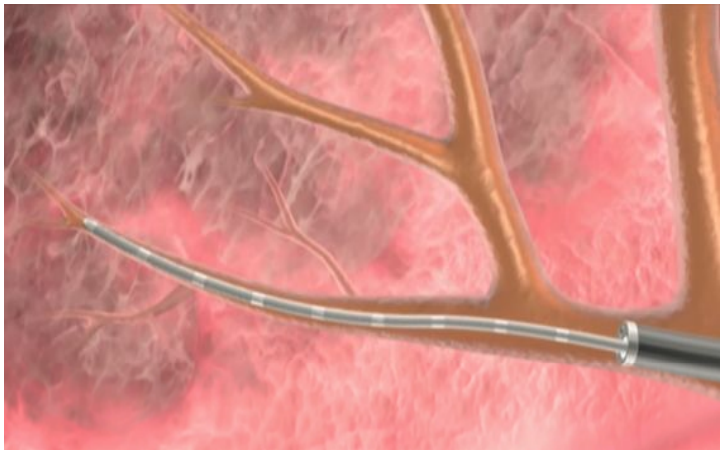


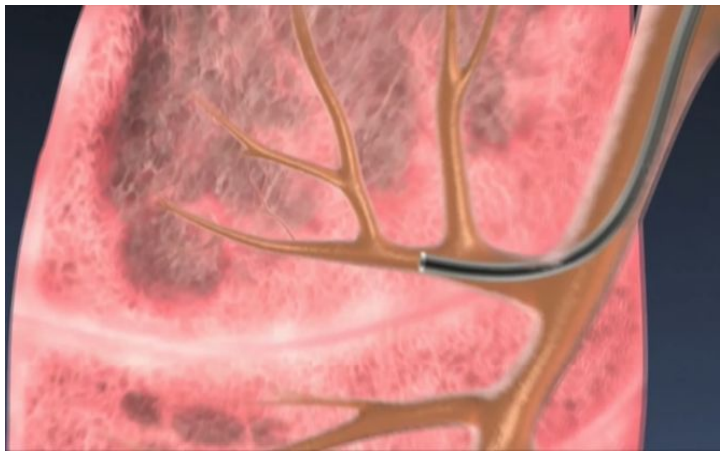
Vapor Ablation

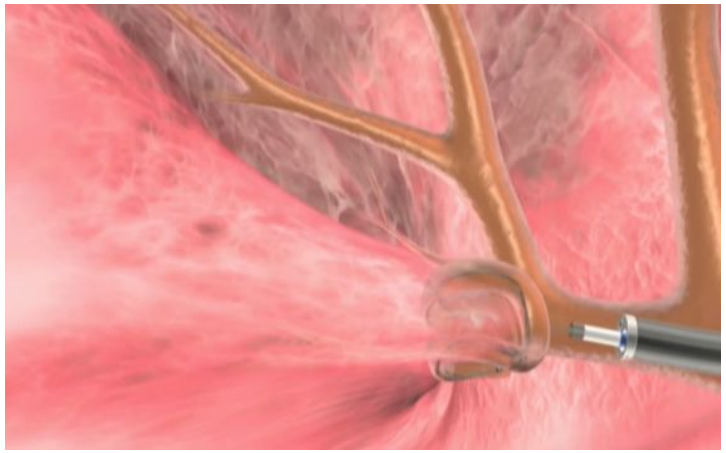


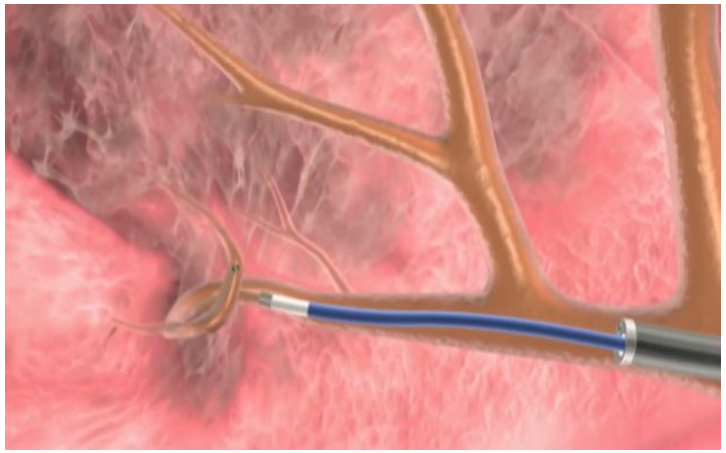
Lung Coils



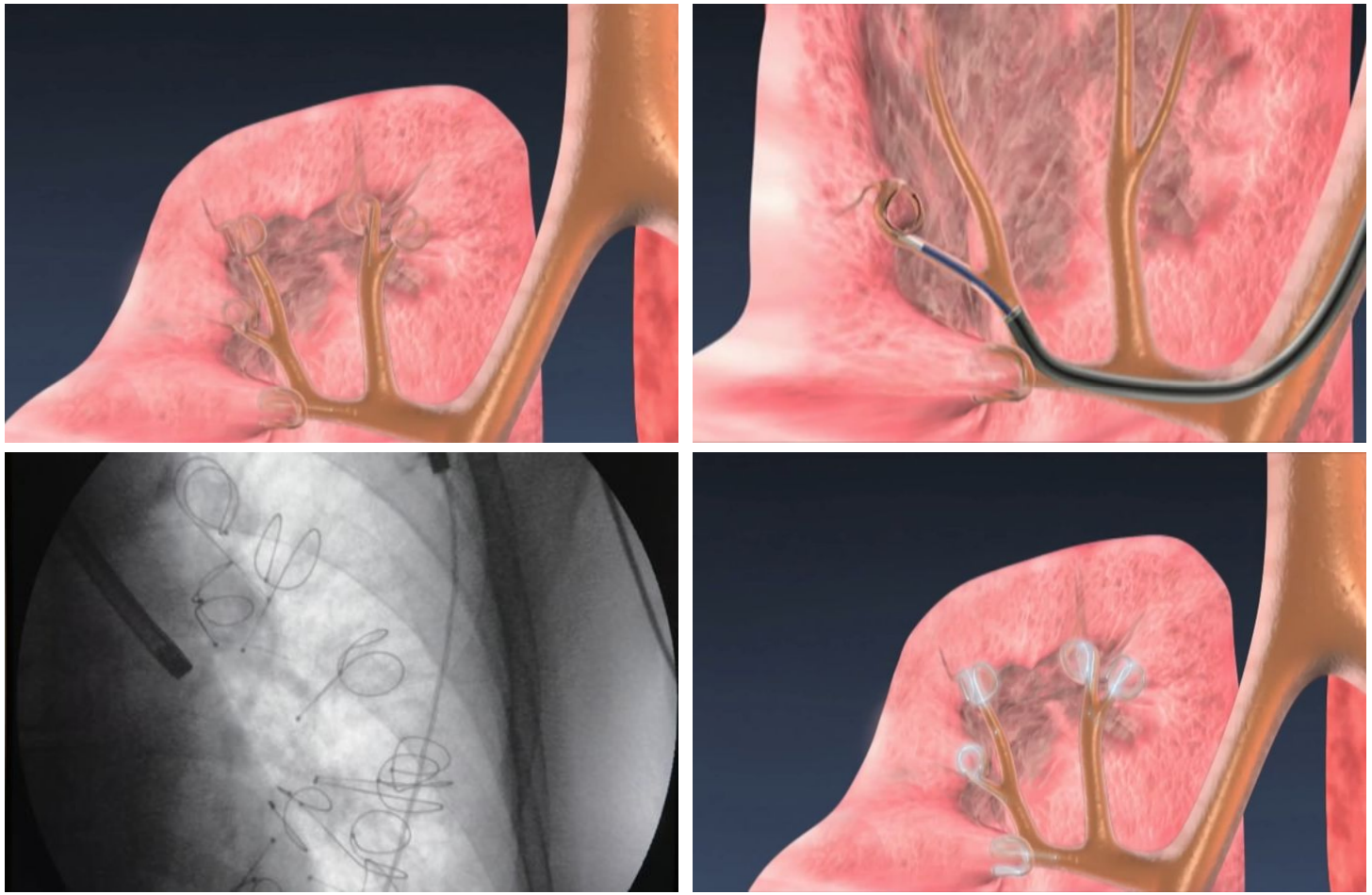








Lung Coils

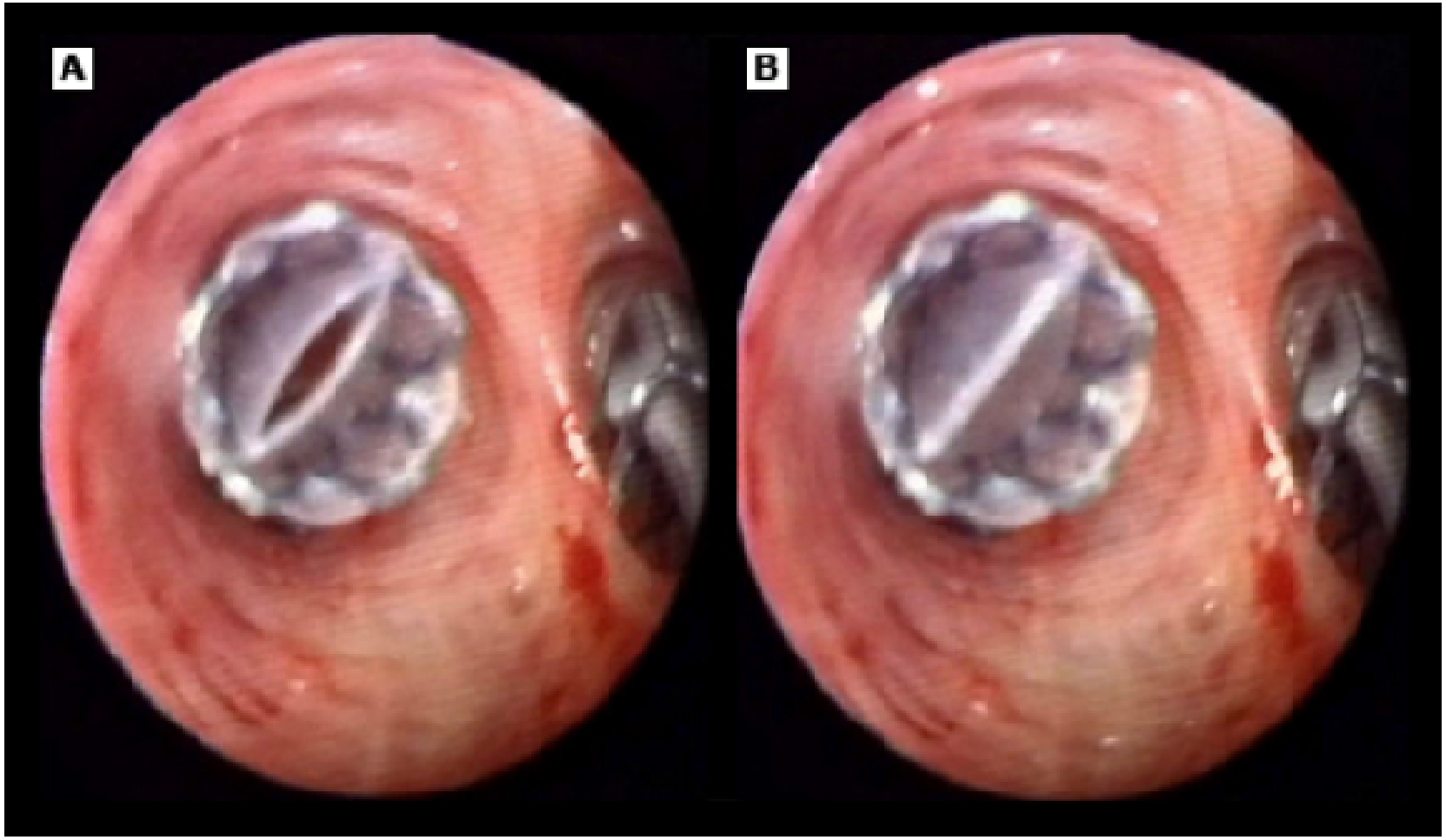


Endobronchial Valves

Zephyr® Endobronchial Valve

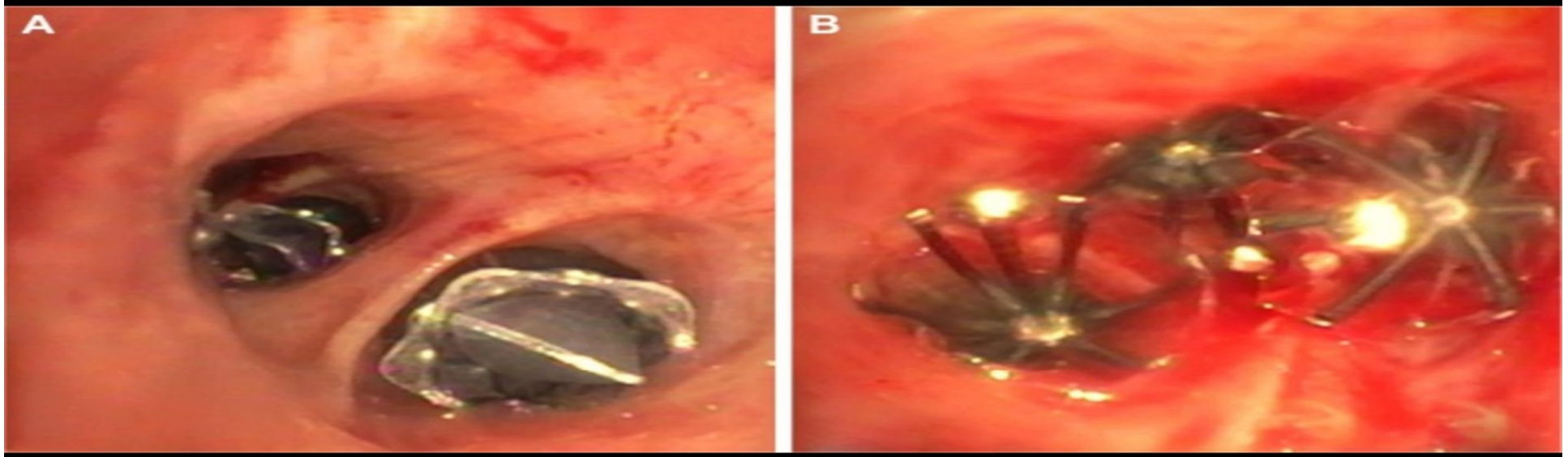
Spiration® Valve System

Zephyr® Endobronchial Valve, end view

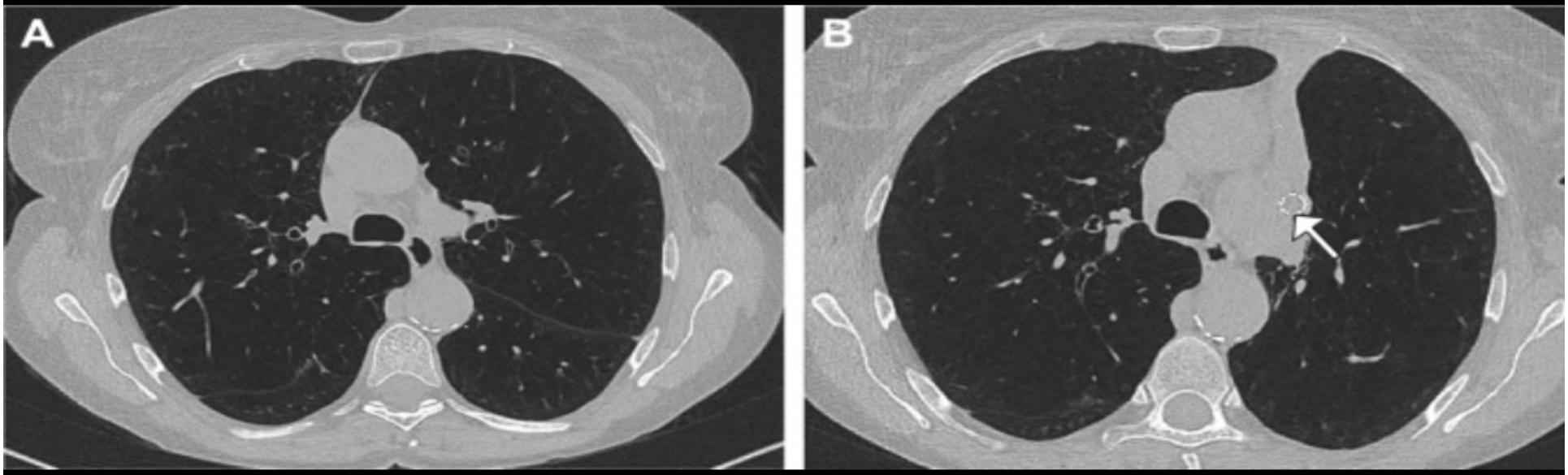


Views of the Zephyr® Endobronchial Valve vents showing an open valve during expiration (panel A) and a closed valve during inspiration (panel B).

Endobronchial Valves



Endobronchial Valves



Lung Volume Reduction Methods Show Similar Results for Emphysema

Neil Osterweil

September 09, 2022

BARCELONA, Spain — For patients with emphysema who are suitable candidates for lung volume reduction surgery, there were no differences at 1 year in either lung function, dyspnea, or exercise capacity between patients who were assigned to undergo

As noted before, there were no significant differences in outcomes at 1 year, with similar degrees of improvement between the surgical techniques for both the composite iBODE score (-1.10 for LVRS vs. -0.82 for BLVR, nonsignificant), and for the individual components of the score.

In addition, the treatments were associated with similar reductions in gas trapping, with residual volume percentage predicted -36.1 with LVRS, vs, -30.5 with BLVR (nonsignificant).

One patient in each group died during the 12 months of follow-up. The death of the patient in the BLVR group was deemed to be treatment related; the death of the patient in the LVRS group was related to a noninfective exacerbation of chronic obstructive pulmonary disease.

Patient selection for bronchoscopic lung volume reduction with endobronchial valves*

Inclusion criteria	
Medical history and physical examination	Clinical presentation consistent with emphysema Symptomatic despite optimal medical therapy (mMRC ≥2) Clinically stable on ≤20 mg prednisone (or equivalent)/day Nonsmoking for ≥4 months BMI <35 kg/m^2
Pulmonary function tests	FEV_1 ≥15% predicted but ≤45% predicted TLC ≥100% predicted RV ≥175% predicted 6MWD ≥100 m and <500 m
Imaging	Emphysema on HRCT
Anesthesia	Able to tolerate procedural sedation
Collateral ventilation	Lobe targeted for EBV placement must have little to no collateral ventilation assessed by Chartis¶ and/or StratX$^{\Delta}$

Exclusion criteria
Prior lung transplant, LVRS, median sternotomy, lobectomy
Heart failure (LVEF <45%), unstable cardiac arrhythmia, myocardial infarction, stroke
Severe hypercapnia: $PaCO_2$ >60 mmHg (8 kPa)
Severe hypoxemia: PaO_2 <45 mmHg (6 kPa)
Active pulmonary infection
Allergy to nitinol, nickel, titanium, or silicone
Large bullae >30% either lung
Contraindications to bronchoscopy or high risk postoperative morbidity or mortality

Potential indications and contraindications for LVRS

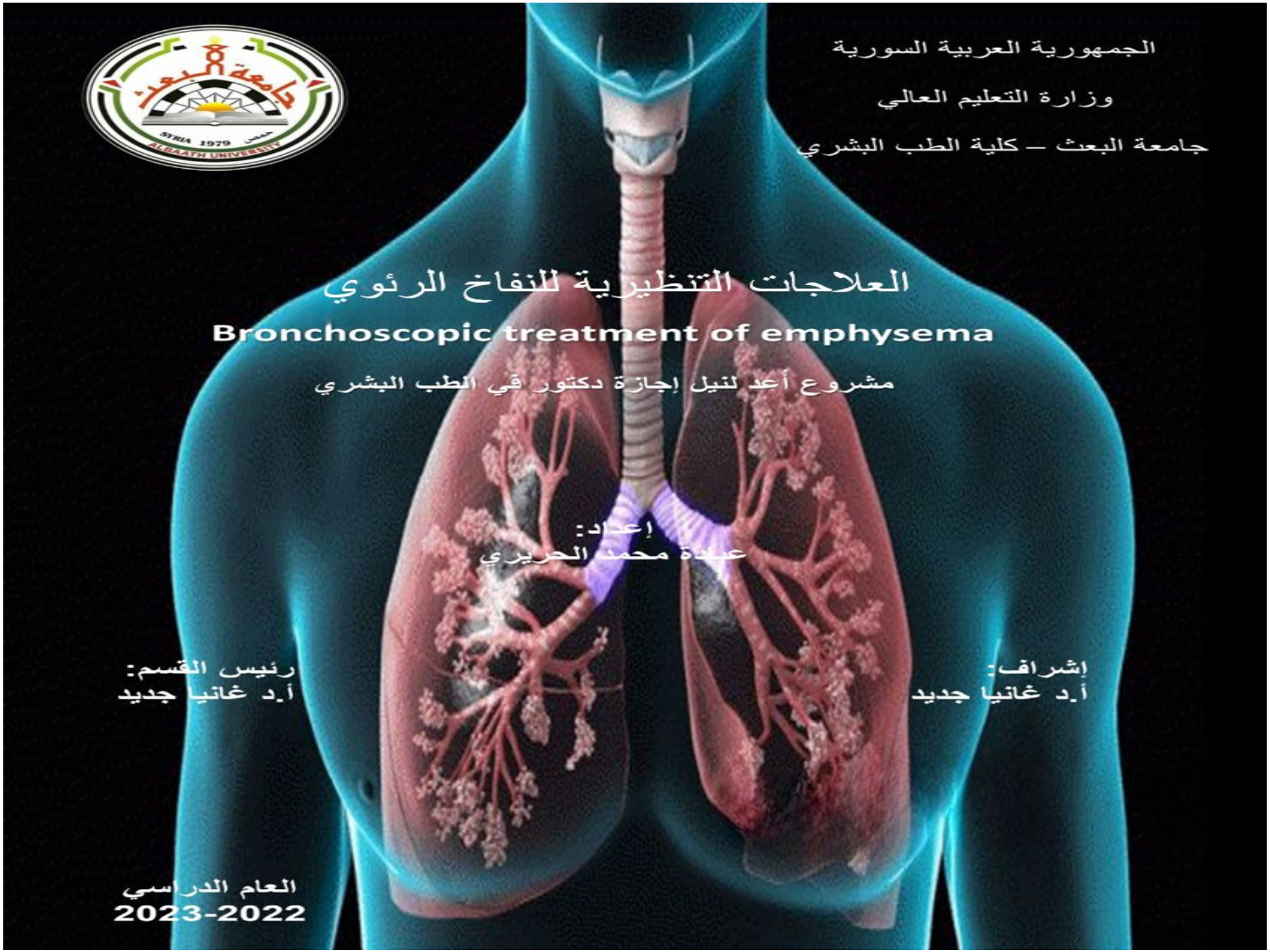
Parameter	Indications	Contraindications
Clinical	Age <75 years	Age ≥75 years
	Ex-smoker (>6 months)	Current smoking
	Clinical picture consistent with emphysema	Surgical constraints (eg, previous thoracic procedure, pleurodesis, chest wall deformity)
	Dyspnea despite maximal medical therapy and pulmonary rehabilitation	Pulmonary hypertension (PA systolic >45 mmHg, PA mean >35 mmHg)
Comorbid illness*		Clinically significant bronchiectasis
		Clinically significant coronary heart disease
		Heart failure with an ejection fraction <45 percent
		Uncontrolled hypertension
		Obesity¶
Physiology	FEV1 after bronchodilator <45 percent predicted	FEV1 ≤20 percent predicted with either DLCO ≤20 percent predicted or homogeneous emphysema
	Hyperinflation (TLC >100 percent predicted, RV >150 percent)	PaO2 ≤45 mmHg on room air
	Post rehabilitation 6-minute walk distance >140 meters	PaCO2 ≥60 mmHg
	Low post rehabilitation maximal achieved cycle ergometry watts$^{\Delta}$	
Imaging	Chest radiograph - hyperinflation	
	HRCT confirming severe emphysema, ideally with upper lobe predominance	Homogeneous emphysema with FEV1 ≤20 percent predicted
		Significant pleural or interstitial changes on HRCT
		Nonupper lobe predominant emphysema and high post rehabilitation maximal achieved cycle ergometry watts$^{\diamond}$

Edit_vapor_Overview of InterVapor Bronchoscopic Thermal Vapor Ablation (BTVA).mp4

Edit _Coil_Neue Therapie bei schwerem Lungenemphysem.mp4

Endobronchial Valve Animation - SPIRATION.mp4

Edit_valve_Endobronchial Valve Animation - SPIRATION.mp4


الجمهورية العربية السورية
وزارة التعليم العالي
جامعة البعث – كلية الطب البشري
العلاجات التنظيرية للنفاخ الرئوي
Bronchoscopic treatment of emphysema
مشروع أعد لنيل إجازة دكتور في الطب البشري
إعداد:
عبدة محمد الحريري
إشراف:
أ.د غانيا جديد
رئيس القسم:
أ.د غانيا جديد
العام الدراسي
2023-2022

Global Initiative for Chronic Obstructive Lung Disease

POCKET GUIDE TO

COPD DIAGNOSIS, MANAGEMENT, AND PREVENTION

A Guide for Health Care Professionals

2023 REPORT

Up to Free Date

Medscape


heart syria
Thank You