COPD UPDATE

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Disclosures

- I receive research funds from CIHR.
- I have not received any financial or in kind contributions from PHARMA in the last 9 years.
- The opinions I express are my own.

Learning Objectives

As a result of attending this session, participants will be able to:

- Adopt the recent changes to COPD treatment guidelines.
- Recognize specific phenotypes of COPD in order to choose the preferred treatment options in different patients.
- Become comfortable with the new combination inhalers being promoted for the treatment of COPD.

GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE (GOLD):

TEACHING SLIDE SET 2020

PATHWAYS TO THE DIAGNOSIS OF COPD

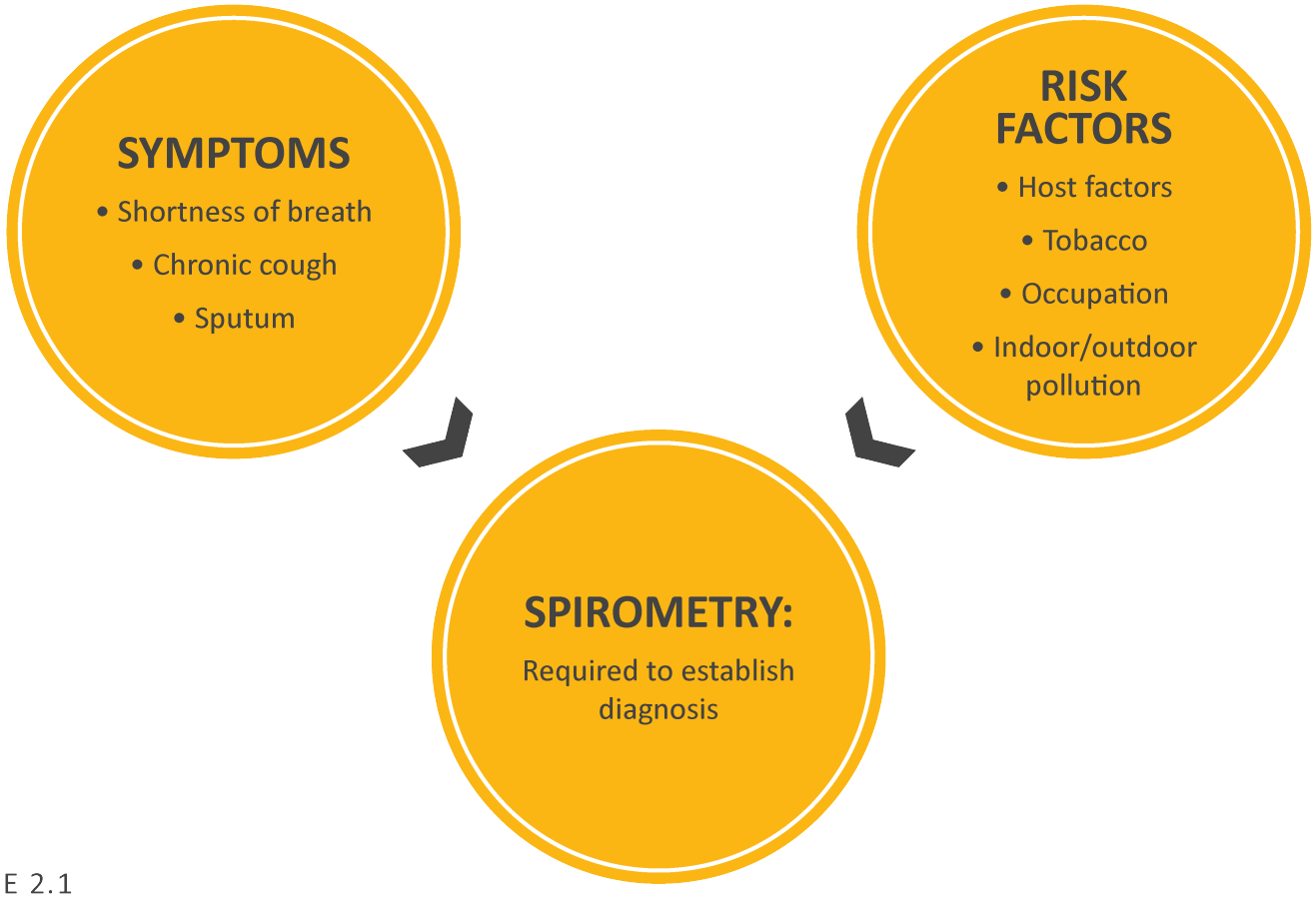

FIGURE 2.1

SPIROMETRY - NORMAL TRACE

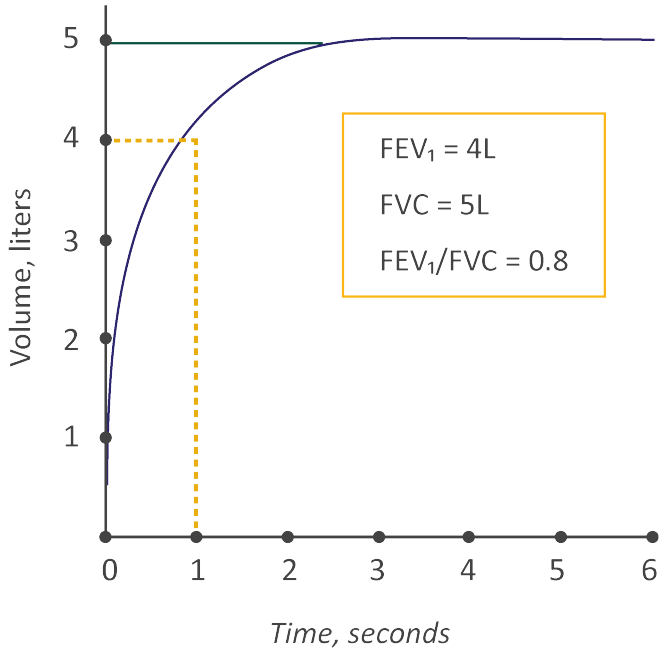

FIGURE 2.2A

SPIROMETRY - OBSTRUCTIVE DISEASE

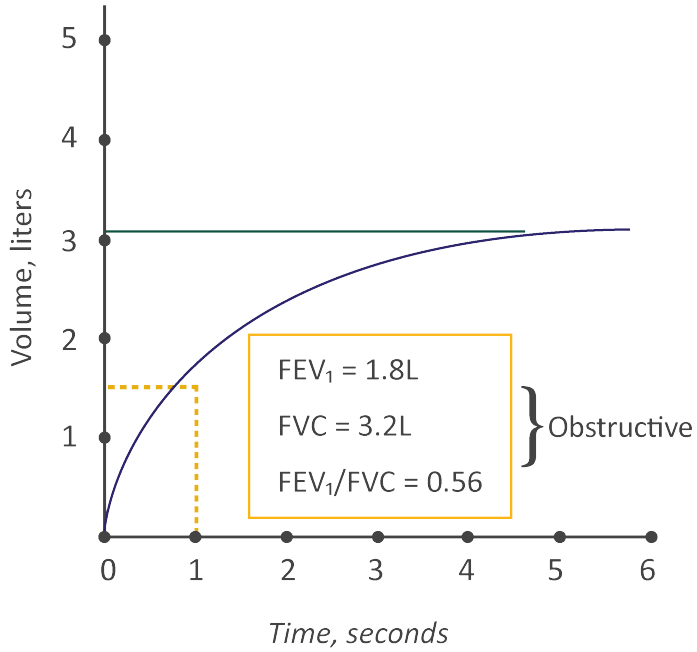

FIGURE 2.2B

FVC =

FEV_1 =

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

TABLE 2.4

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.	☐

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.

FIGURE 2.3

THE REFINED ABCD ASSESSMENT TOOL

Spirometrically Confirmed Diagnosis

Assessment of airflow limitation

Assessment of symptoms/risk of exacerbations

Post-bronchodilator $FEV_1/FVC < 0.7$

Grade	FEV_1 (% predicted)
GOLD 1	≥ 80
GOLD 2	50-79
GOLD 3	30-49
GOLD 4	< 30

Moderate or Severe Exacerbation History

≥2 or ≥ 1 leading to hospital admission

0 or 1 (not leading to hospital admission)

C	D
A	B

mMRC 0-1 CAT < 10 | mMRC ≥ 2 CAT ≥ 10

Symptoms

FIGURE 2.4

BRIEF STRATEGIES TO HELP THE PATIENT WILLING TO QUIT

• **ASK:**	Systematically identify all tobacco users at every visit. *Implement an office-wide system that ensures that, for EVERY patient at EVERY clinic visit, tobacco-use status is queried and documented.*
• **ADVISE:**	Strongly urge all tobacco users to quit. *In a clear, strong, and personalized manner, urge every tobacco user to quit.*
• **ASSESS:**	Determine willingness and rationale of patient's desire to make a quit attempt. *Ask every tobacco user if he or she is willing to make a quit attempt at this time (e.g., within the next 30 days).*
• **ASSIST:**	Aid the patient in quitting. *Help the patient with a quit plan; provide practical counseling; provide intra-treatment social support; help the patient obtain extra-treatment social support; recommend use of approved pharmacotherapy except in special circumstances; provide supplementary materials.*
• **ARRANGE:**	Schedule follow-up contact. *Schedule follow-up contact, either in person or via telephone.*

TABLE 3.1

VACCINATION FOR STABLE COPD

- Influenza vaccination reduces serious illness and death in COPD patients **(EvidenceB)**.

- The 23-valent pneumococcal polysaccharide vaccine (PPSV23) has been shown to reduce the incidence of community - acquired pneumonia in COPD patients aged < 65 years with an FEV_1 < 40% predicted and in those with comorbidities **(Evidence B)**.

- In the general population of adults ≥65 years the 13-valent conjugated pneumococcal vaccine (PCV13) has demonstrated significant efficacy in reducing bacteremia & serious invasive pneumococcal disease **(Evidence B)**.

TABLE 3.2

GOALS FOR TREATMENT OF STABLE COPD

- **Relieve Symptoms**
- **Improve Exercise Tolerance**
- **Improve Health Status**

REDUCE SYMPTOMS

and

- **Prevent Disease Progression**
- **Prevent and Treat Exacerbations**
- **Reduce Mortality**

REDUCE RISK

TABLE 4.1

BRONCHODILATORS IN STABLE COPD

- Inhaled bronchodilators in COPD are central to symptom management and commonly given on a regular basis to prevent or reduce symptoms **(Evidence A)**.
- Regular and as-needed use of SABA or SAMA improves FEV_1 and symptoms **(Evidence A)**.
- Combinations of SABA and SAMA are superior compared to either medication alone in improving FEV_1 and symptoms **(Evidence A)**.
- LABAs and LAMAs significantly improve lung function, dyspnea, health status, and reduce exacerbation rates **(Evidence A)**.
- LAMAs have a greater effect on exacerbation reduction compared with LABAs **(Evidence A)** and decrease hospitalizations **(Evidence B)**.
- Combination treatment with a LABA and LAMA increases FEV_1 and reduces symptoms compared to monotherapy **(Evidence A)**.
- Combination treatment with a LABA/LAMA reduces exacerbations compared to monotherapy **(Evidence B)**.
- Tiotropium improves the effectiveness of pulmonary rehabilitation in increasing exercise performance **(Evidence B)**.
- Theophylline exerts a small bronchodilator effect in stable COPD **(Evidence A)** and that is associated with modest symptomatic benefits **(Evidence B)**.

TABLE 3.4

THE INHALED ROUTE

- When a treatment is given by the inhaled route, the importance of education and training in inhaler device technique cannot be over-emphasized.
- The choice of inhaler device has to be individually tailored and will depend on access, cost, prescriber, and most importantly, patient's ability and preference.
- It is essential to provide instructions and to demonstrate the proper inhalation technique when prescribing a device, to ensure that inhaler technique is adequate and re-check at each visit that patients continue to use their inhaler correctly.
- Inhaler technique (and adherence to therapy) should be assessed before concluding that the current therapy is insufficient.

TABLE 3.6

FACTORS TO CONSIDER WHEN INITIATING ICS TREATMENT

Factors to consider when initiating ICS treatment in combination with one or two long-acting bronchodilators (note the scenario is different when considering ICS withdrawal):

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

#despite appropriate long-acting bronchodilator maintenance therapy (see Table 3.4 and Figure 4.3 for recommendations);

*note that blood eosinophils should be seen as a continuum; quoted values represent approximate cut-points; eosinophil counts are likely to fluctuate.

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FIGURE 3.1

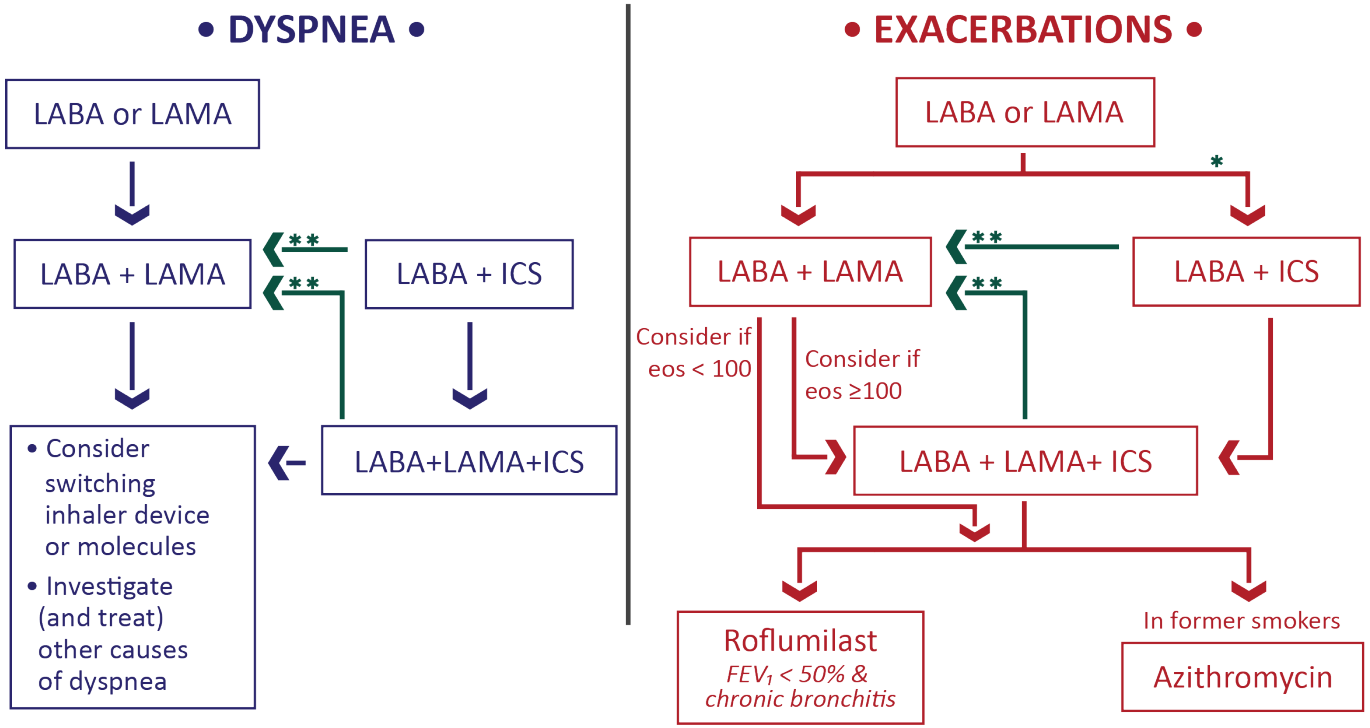
INITIAL PHARMACOLOGICAL TREATMENT

≥ 2 moderate exacerbations or ≥ 1 leading to hospitalization	**Group C** LAMA	**Group D** LAMA or LAMA + LABA* or ICS + LABA** *Consider if highly symptomatic (e.g. CAT > 20) **Consider if eos ≥ 300
0 or 1 moderate exacerbations (not leading to hospital admission)	**Group A** A Bronchodilator	**Group B** A Long Acting Bronchodilator (LABA or LAMA)
	mMRC 0-1, CAT < 10	mMRC ≥ 2, CAT ≥ 10

FIGURE 4.2

FOLLOW-UP PHARMACOLOGICAL TREATMENT

1. **IF RESPONSE TO INITIAL TREATMENT IS APPROPRIATE, MAINTAIN IT.**
2. **IF NOT:**
   - ✓ Consider the predominant treatable trait to target (dyspnea or exacerbations)
     - Use exacerbation pathway if both exacerbations and dyspnea need to be targeted
   - ✓ Place patient in box corresponding to current treatment & follow indications
   - ✓ Assess response, adjust and review
   - ✓ These recommendations do not depend on the ABCD assessment at diagnosis



eos = blood eosinophil count (cells/µL)
**** Consider if eos ≥ 300 or eos ≥ 100 AND ≥2 moderate exacerbations / 1 hospitalization***
***** Consider de-escalation of ICS or switch if pneumonia, inappropriate original indication or lack of response to ICS***

FIGURE 4.4

Choice of Inhaler Device

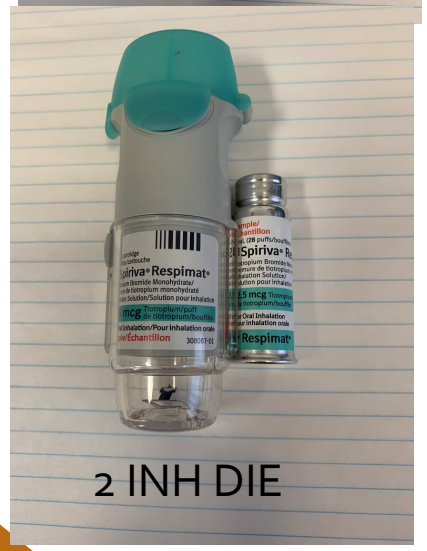
- Consider lower carbon footprint (1/20th) of dry powdered inhalers (DPI) vs MDIs
- MDIs must be used with an aerochamber!
- INHALER TECHNIQUE NEEDS TO BE CHECKED AGAIN and AGAIN and AGAIN……..

Long-Acting Anti-Cholinergics LAMAs

- First line in COPD as addition to short-acting beta-agonist ((salbutamol MDI or Ventolin Diskus for powder device (code RE113) or again Bricanyl))
- Spiriva Handihaler, Spiriva Respimat, Tudorza (bid), Incruse, Seebri.
- No code required.

LAMAs

SPIRIVA

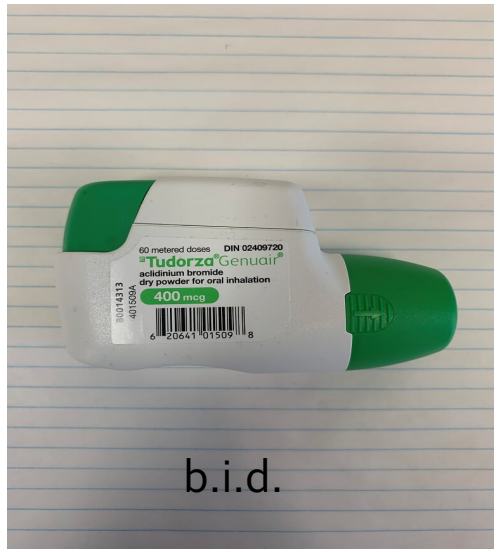


2 INH DIE

INCRUSE

SEEBRI

TUDORZA



b.i.d.

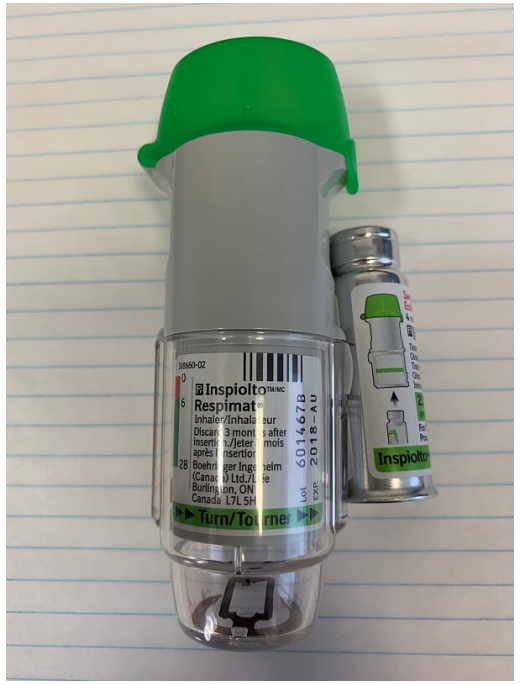
1st line maintenance tx in COPD

LAMA/LABA Combinations

- RE 176 to START
- RE 177 to RENEW
- For patients with continuing symptoms and/or exacerbations on single long-acting bronchodilator therapy BUT without characteristics suggestive of concurrent asthma.
- My order of preference: type of inhaler most important
  - Ultibro=Inspiolto=Anoro
  - Once a day

LABA/LAMA

INSPIOLOTO



2 inh die

ULTIBRO

ANORO

RE176 NEW; RE177 RENEW. COPD ONLY

LABA/ICS Combinations in COPD

- RE 172 to START
- RE 173 to RENEW
- For patients with features suggestive of asthma (blood eosinophils > 300) OR with continuing symptoms and exacerbations on LAMA/LABA therapy.
- My order of preference: (compatibility of inhaler techniques a strong consideration).
  - Breo**100** qd,Symbicort200 2bid, Zenhale**100** 2 bid

ICS/LABA

SYMBICORT 200 2x2

BREO 100
qd

ONCE A DAY

ZENHALE 100 2x2

EQIVALENT TO ADVAIR 125 X2, ADVAIR DISKUS 250 x2
BREO 200 CONTRA-INDICATED IN COPD
FOR COPD RE172 NEW, RE173 RENEW

Why not prescribe LABA/ICS in COPD?

Side effects are significant:

- Severe pneumonia
- Mycobacterial infections
- Diabetes onset and progression
- Osteoporosis
- Adrenal insufficiency
- Cataracts

ICS-LABA-LAMA triple inhaler

Once a day

BREO 200 WILL SOON BE AVAILABLE FOR SEVERE ASTHMA
WILL BE CONTRA-INDICATED IN COPD

Vidéos sur techniques d'inhalations

- **Association pulmonaire de l'Ontario:**
  www.on.lung.ca/inhalationdevicevideos

- Association pulmonaire canadienne:
  www.poumon.ca/santé-pulmonaire/demandez-de-laide/comment-utiliser-votre-inhalateur

- National Asthma Council Australia:
  www.nationalasthma.org.au/living-with-asthma/how-to-videos


Thank-you !