

# COPD- Doing it Better?

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# Meet John

47 yrs

Gradual increase in difficulty walking

Left knee clicks and gives way

X-ray Knee- degeneration

Orthopaedic surgeon

- MR Scan
- TKR required



# What happens next..?



John gets a TKR?

The surgeon does a TKR and then refers John to the dietician?

The surgeon tells John to go away and come back when he has lost 3 stone?

# Meet George

45 years old

Alcohol- 75 units per week since aged 18

USS abdomen- 15% hepatocyte function only. Rest cirrhotic

No other significant PMHx

Assessed as requiring liver transplantation



# What happens next?

George is told that due to his alcohol consumption that a transplant is out of the question?

George is told that if he stops drinking completely for 6 months he will be listed for transplantation?

George has a liver transplant and is then referred to the alcohol liaison team?



# Meet Brian

65 yrs. Smoker for 40 pack years

MRC 4

FEV1/VC ratio 0.5

FEV1 32% predicted

Ex-miner

Sats 93% on air

CXR- hyperinflation

Referred for COPD management



# What happens next?



Brian is told to stop smoking and attend pulmonary rehabilitation and then he may receive inhalers?

Brian is given bronchodilators and nobody holds him to account for smoking and pulmonary rehabilitation?

Brian is asked whether he wants to stop smoking and attend pulmonary rehabilitation. When he “no thanks” he is given inhalers anyway?

Is there not a “disconnect” here?



VS











"A belief is not merely an idea that the mind possesses.  
It is an idea that possesses the mind."

- Robert Oxton Bolton

Attitude  
Changes  
Everything!

A stylized profile of a human head in black outline, facing right. Behind the head is a bright yellow sunburst with radiating lines, symbolizing a bright idea or a positive attitude. The text 'Attitude Changes Everything!' is written in a black, handwritten-style font to the left of the head.

# Diagnosis of COPD

## SYMPTOMS

shortness of breath  
chronic cough  
sputum

## EXPOSURE TO RISK FACTORS

tobacco  
occupation  
indoor/outdoor pollution



**SPIROMETRY:** Required to establish diagnosis

**Measurement 1**

**Relaxed Vital Capacity**

**Measurement 2**

**FEV1 and FVC**



**Think COPD if:**

**FEV1/(F)VC < 0.7**

# Assessment of COPD- more than Spirometry

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- Assess symptoms
- Assess degree of airflow limitation using spirometry
- Assess risk of exacerbations
- Assess comorbidities

# Assessment of COPD

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- Assess symptoms

COPD Assessment Test (CAT)

*or*

(m)MRC Breathlessness scale

Your name:

Today's date:



## How is your COPD? Take the COPD Assessment Test™ (CAT)

This questionnaire will help you and your healthcare professional measure the impact COPD (Chronic Obstructive Pulmonary Disease) is having on your wellbeing and daily life. Your answers, and test score, can be used by you and your healthcare professional to help improve the management of your COPD and get the greatest benefit from treatment.

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  1  2  3  4  5 I am very sad

		SCORE	
I never cough	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I cough all the time	<input type="text"/>
I have no phlegm (mucus) in my chest at all	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	My chest is completely full of phlegm (mucus)	<input type="text"/>
My chest does not feel tight at all	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	My chest feels very tight	<input type="text"/>
When I walk up a hill or one flight of stairs I am not breathless	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	When I walk up a hill or one flight of stairs I am very breathless	<input type="text"/>
I am not limited doing any activities at home	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I am very limited doing activities at home	<input type="text"/>
I am confident leaving my home despite my lung condition	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I am not at all confident leaving my home because of my lung condition	<input type="text"/>
I sleep soundly	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I don't sleep soundly because of my lung condition	<input type="text"/>
I have lots of energy	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I have no energy at all	<input type="text"/>
		<b>TOTAL SCORE</b>	<input type="text"/>

## The MRC Breathlessness Scale

Grade	Degree of breathlessness related to activities
1	Not troubled by breathlessness except on strenuous exercise
2	Short of breath when hurrying on the level or walking up a slight hill
3	Walks slower than most people on the level, stops after a mile or so, or stops after 15 minutes walking at own pace
4	Stops for breath after walking about 100 yds or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when undressing



# Assessment of COPD

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- Assess symptoms
- Assess degree of airflow limitation using

Use spirometry for grading severity according to spirometry, using four grades split at 80%, 50% and 30% of predicted value

Global Strategy for Diagnosis, Management and Prevention of COPD

# Classification of Severity of Airflow Limitation in COPD\*

In patients with  $FEV_1 / (F)VC < 0.70$ :

- |                     |                                    |
|---------------------|------------------------------------|
| 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           |

*\*Based on Post-Bronchodilator  $FEV_1$*

# Assessment of COPD

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- Assess symptoms
- Assess degree of airflow limitation using spirometry
- Assess risk of exacerbations

Use history of exacerbations and spirometry. Two exacerbations or more within the last year or an  $FEV_1 < 50\%$  of predicted value are indicators of high risk. Hospitalization for a COPD exacerbation associated with increased risk of death.

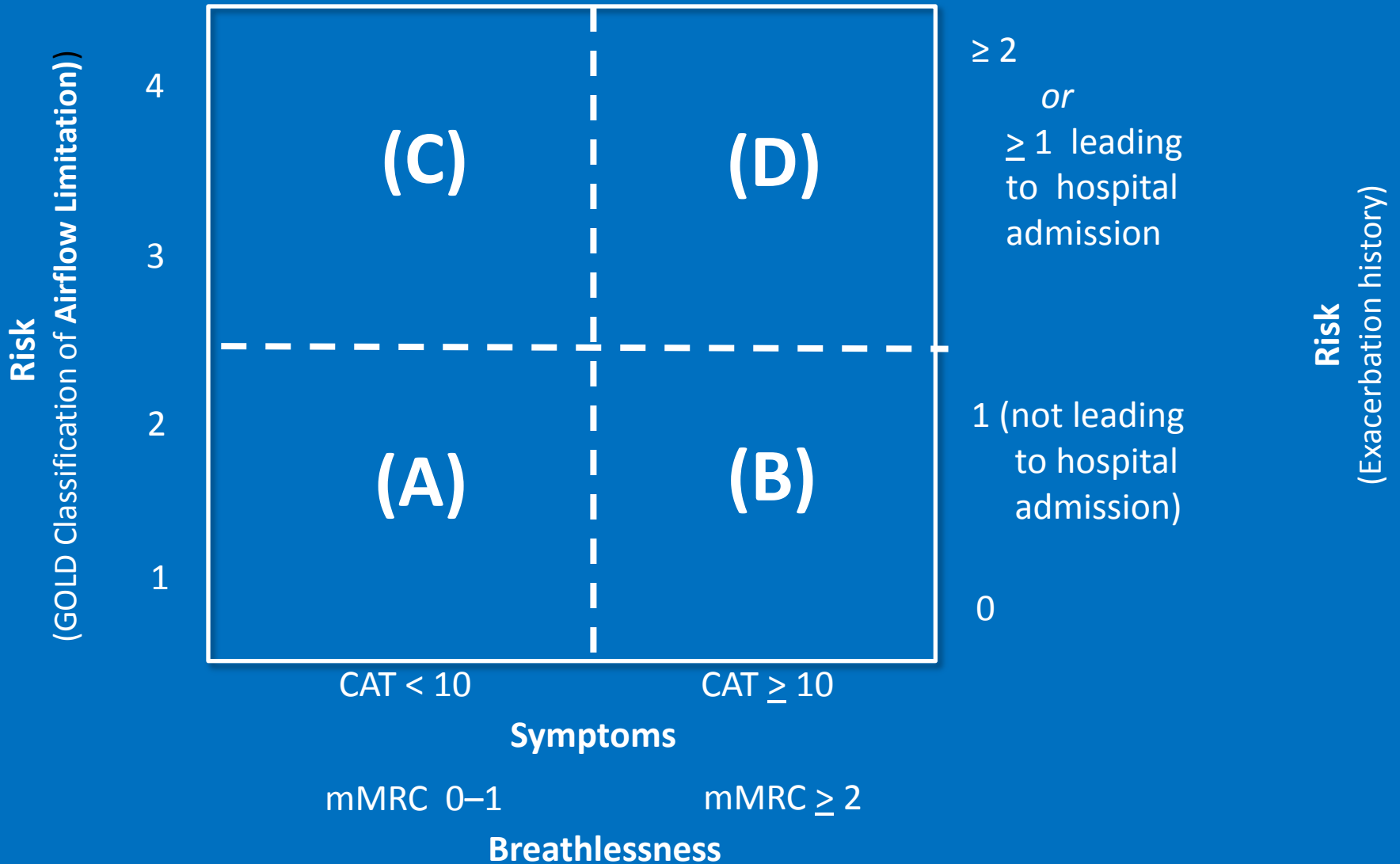
# Combined Assessment of COPD

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- Assess symptoms
- Assess degree of airflow limitation using spirometry
- Assess risk of exacerbations

*Combine these assessments for the purpose of improving management of COPD*

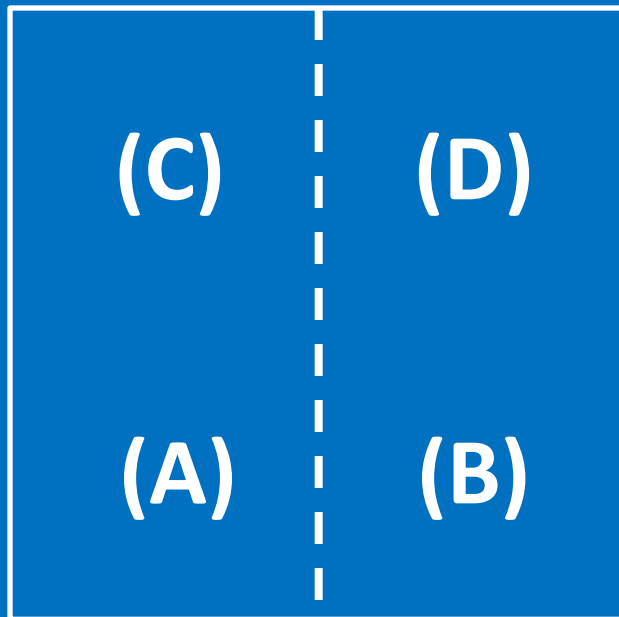
# Combined Assessment of COPD



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# Combined Assessment of COPD

## Assess symptoms first



CAT < 10

CAT  $\geq$  10

Symptoms

mMRC 0–1

mMRC  $\geq$  2

Breathlessness

If CAT < 10 *or* mMRC 0-1:

Less Symptoms/breathlessness (A or C)

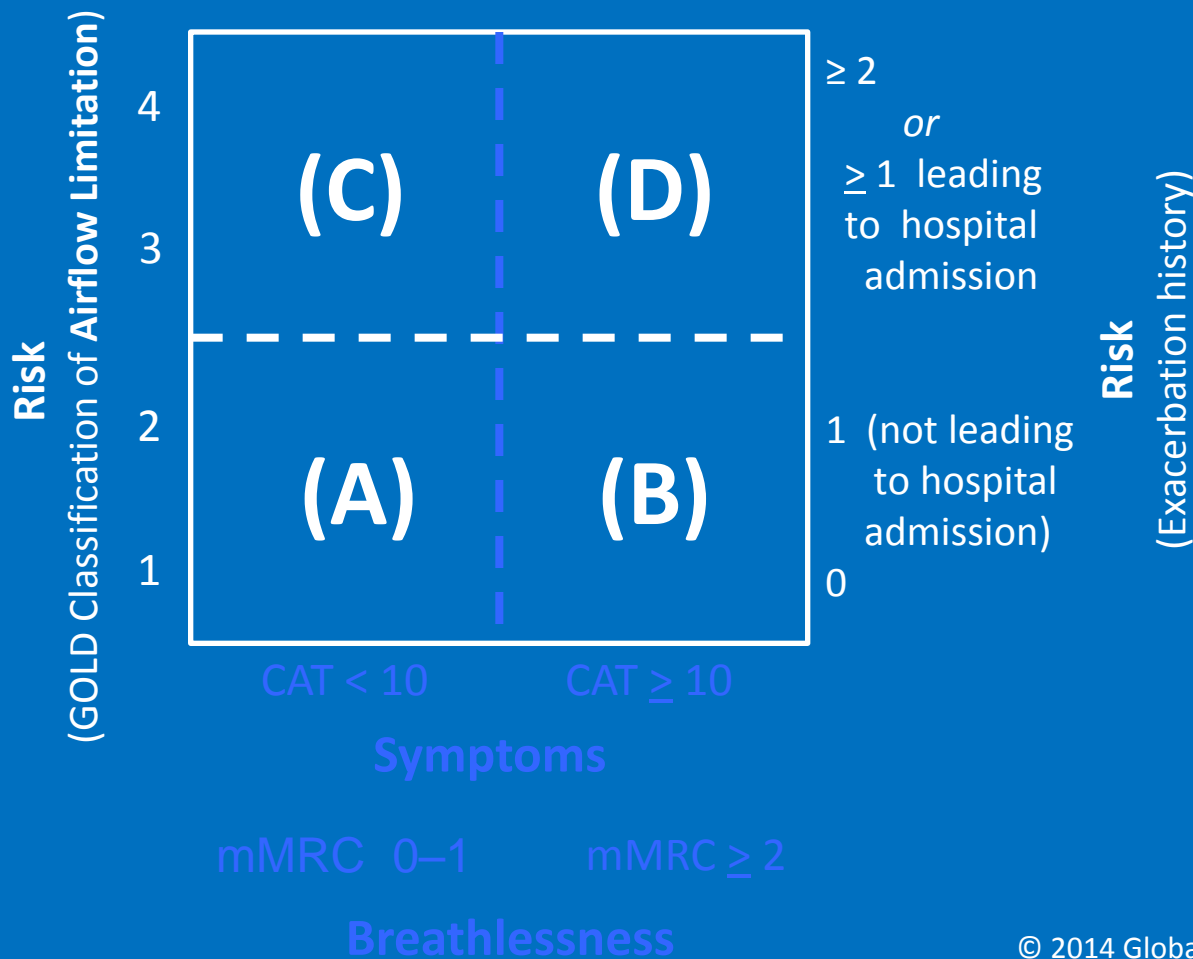
If CAT  $\geq$  10 *or* mMRC  $\geq$  2:

More Symptoms/breathlessness (B or D)

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# Combined Assessment of COPD

## Assess risk of exacerbations next

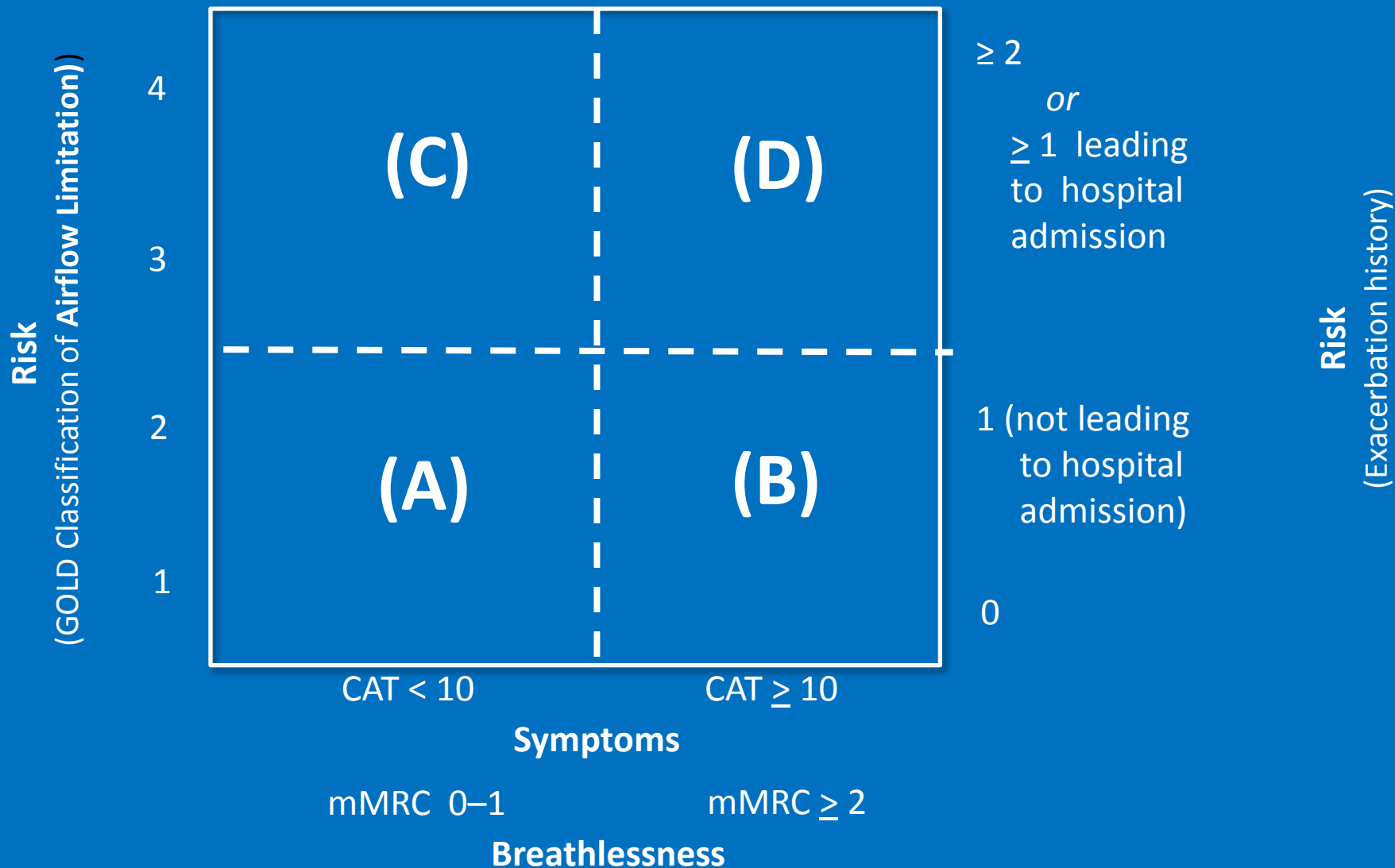


If GOLD 3 or 4 *or* ≥ 2 exacerbations per year *or* ≥ 1 leading to hospital admission:  
High Risk (C or D)

If GOLD 1 or 2 *and* only 0 or 1 exacerbations per year (not leading to hospital admission):  
Low Risk (A or B)

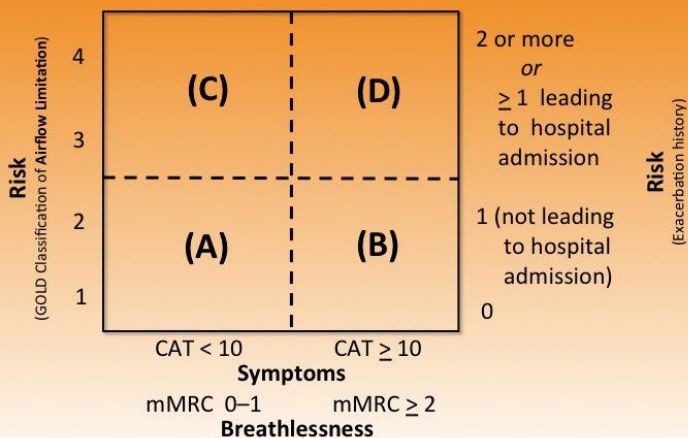
# Global Strategy for Diagnosis, Management and Prevention of COPD

## Combined Assessment of COPD





# Combined Assessment of COPD



*When assessing risk, choose the **highest** risk according to GOLD grade or exacerbation history. One or more hospitalizations for COPD exacerbations should be considered high risk.)*

Patient	Characteristic	Spirometric Classification	Exacerbations per year	CAT	mMRC
A	Low Risk Less Symptoms	GOLD 1-2	≤ 1	< 10	0-1
B	Low Risk More Symptoms	GOLD 1-2	≤ 1	≥ 10	≥ 2
C	High Risk Less Symptoms	GOLD 3-4	≥ 2	< 10	0-1
D	High Risk More Symptoms	GOLD 3-4	≥ 2	≥ 10	≥ 2

Global Strategy for Diagnosis, Management and Prevention of COPD

# Therapeutic Options: Key Points

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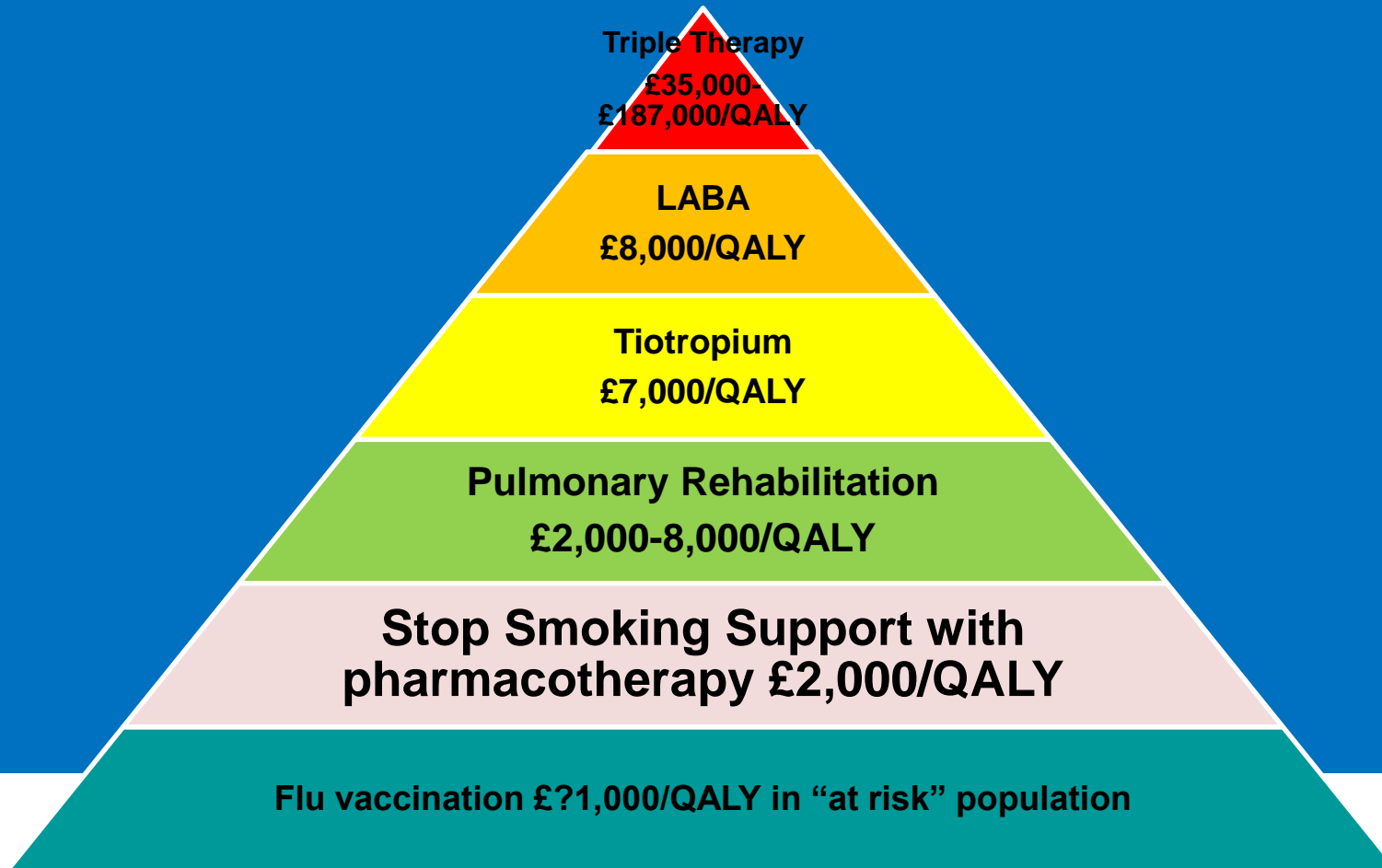
- Smoking cessation has the greatest capacity to influence the natural history of COPD. Health care providers should encourage all patients who smoke to quit.
- Pharmacotherapy and nicotine replacement reliably increase long-term smoking abstinence rates.
- All COPD patients benefit from regular physical activity and should repeatedly be encouraged to remain active.

# Therapeutic Options: Key Points

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- Appropriate pharmacologic therapy can reduce COPD symptoms, reduce the frequency and severity of exacerbations, and improve health status and exercise tolerance.
- None of the existing medications for COPD has been shown conclusively to modify the long-term decline in lung function.
- Influenza and pneumococcal vaccination should be offered depending on local guidelines.

# The London COPD 'Value' Pyramid (cost per QALY)



**NHS**

London

**London Respiratory Team**

*Improving the experience of all Londoners with COPD and minimising the impact of the disease*

# Or put another way.....

1st

Flu vaccination £?1,000/QALY in “at risk” population

2nd

Stop Smoking Support with pharmacotherapy £2,000/QALY

3rd

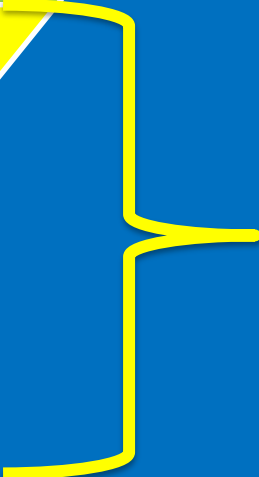
Pulmonary Rehabilitation  
£2,000-8,000/QALY

Tiotropium  
£7,000/QALY

4th

LABA  
£8,000/QALY

Triple Therapy  
£35,000-  
£187,000/QALY





%



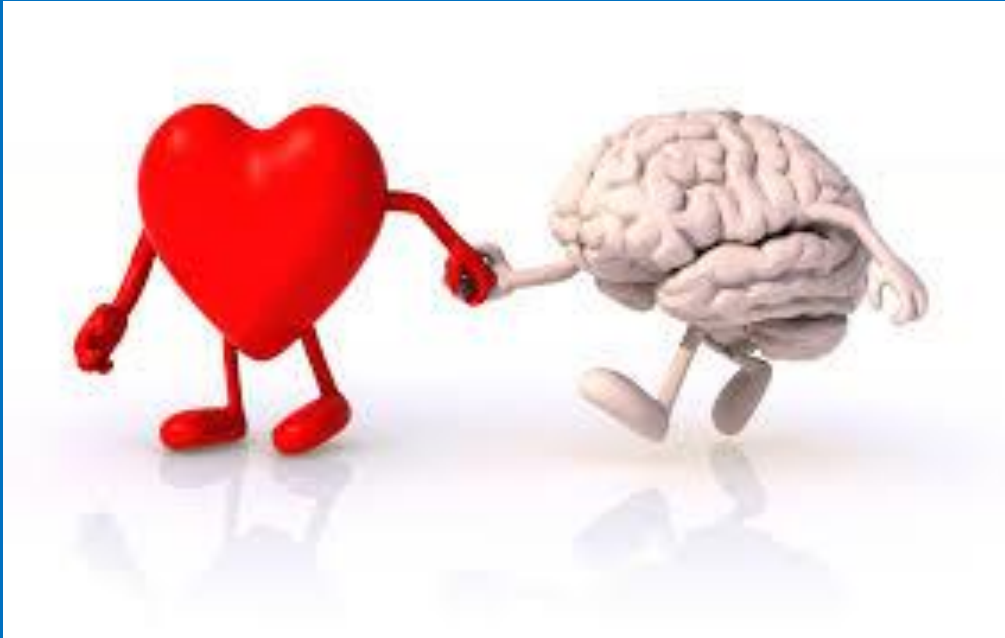
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%



%





# MANDATORY TRAINING





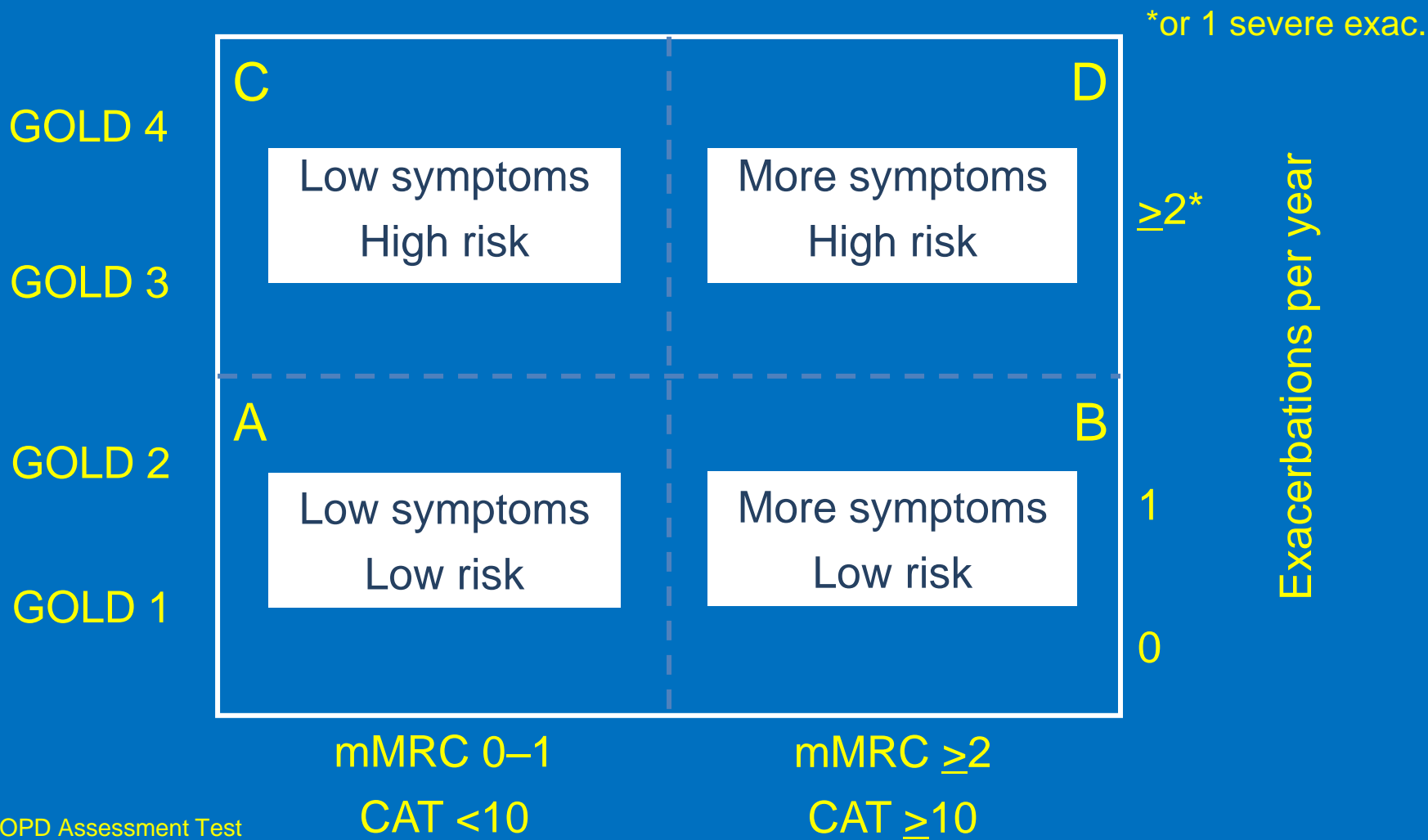
If you do  
what you've  
always done,  
you'll get  
where you've  
always got.

sprinklesofglitter



**IF YOU WANT  
SOMETHING YOU'VE  
NEVER HAD,  
THEN YOU'VE  
GOT TO DO  
SOMETHING YOU'VE  
NEVER DONE.**

# GOLD: Global strategy for diagnosis, management and prevention of COPD



CAT = COPD Assessment Test  
mMRC = modified Medical Research Council

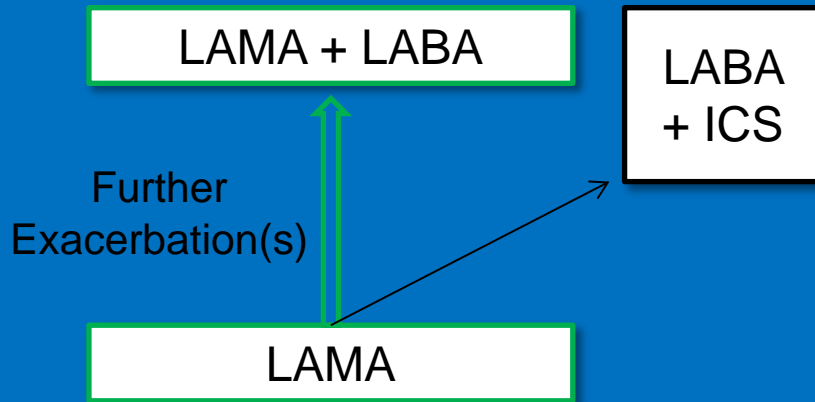
GOLD 2013

Indacaterol/glycopyrronium once daily is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with COPD

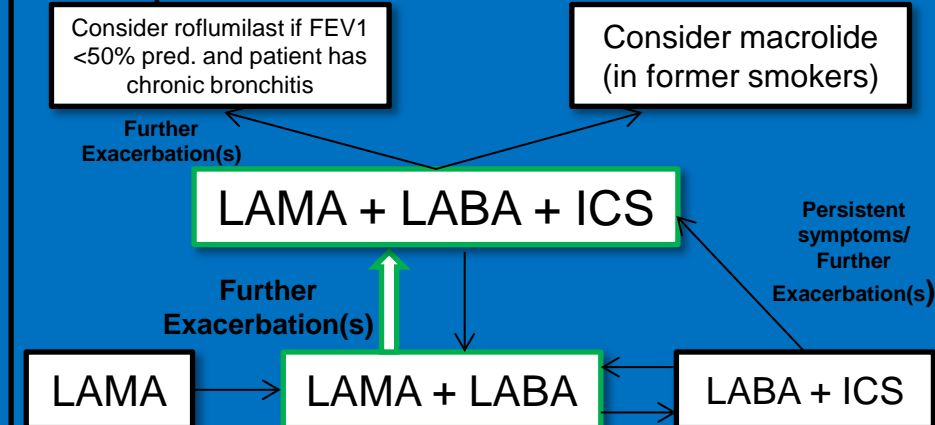
# Global Strategy for Diagnosis, Management and Prevention of COPD

## Manage Stable COPD: Pharmacologic Therapy

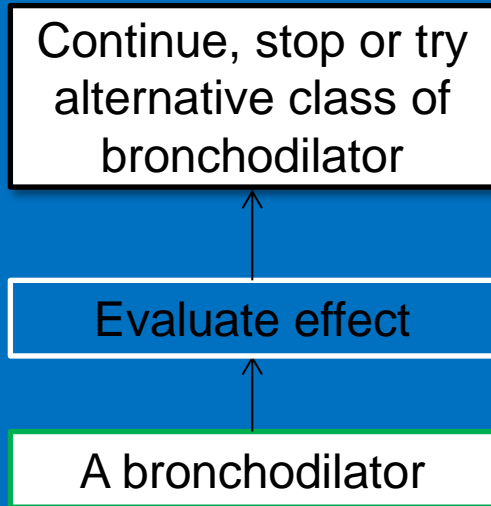
### Group C



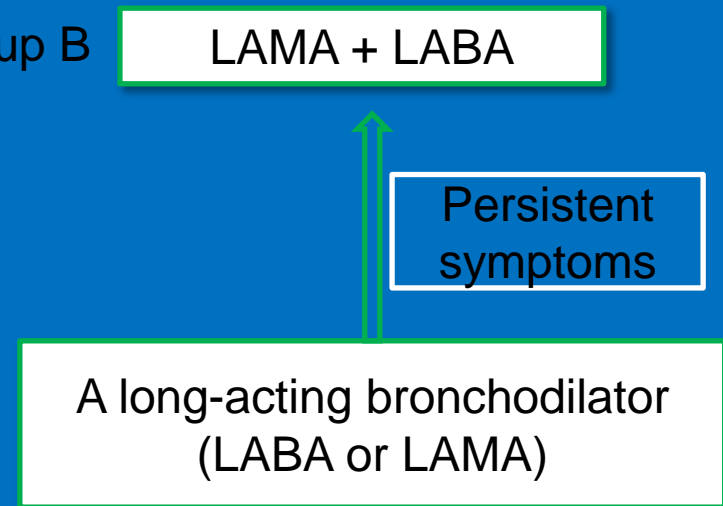
### Group D



### Group A



### Group B



Preferred treatment =

In patients with a major discrepancy between the perceived level of symptoms and severity of airflow limitation, further evaluation is warranted

# Manage Stable COPD: Pharmacologic Therapy Treatment Choices.

GOLD 4

**C**



or



+



or



**D**

Ultribro® Breezhaler® © DLI AY'S

ANORO® inhaler © DLI AY'S

RELVAR® inhaler © DLI AY'S

INCRISOL® inhaler © DLI AY'S

GOLD 3



or



or



Ultribro® Breezhaler® © DLI AY'S

GOLD 2

**A**



or



or



or



**B**

onbrez® inhaler © DLI AY'S

seebri® inhaler © DLI AY'S

Ultribro® Breezhaler® © DLI AY'S

ANORO® inhaler © DLI AY'S

GOLD 1



or



or



2 or more

or

≥ 1 leading to hospital admission

1 (not leading to hospital admission)

0

Exacerbations per year

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CAT < 10  
mMRC 0-1

CAT ≥ 10  
mMRC ≥ 2

Images are intended as an illustration of the class of drugs which can be used for each category

# Global Strategy for Diagnosis, Management and Prevention of COPD

## Manage Stable COPD: Pharmacologic Therapy

### OTHER POSSIBLE TREATMENTS

	<b>C</b>	<b>D</b>	
GOLD 4	<p><i>SABA and/or SAMA</i></p> <p><i>Theophylline</i></p>	<p><i>Carbocysteine</i></p> <p><i>SABA and/or SAMA</i></p> <p><i>Theophylline</i></p>	<p>2 or more or ≥ 1 leading to hospital admission</p> <p>Exacerbations per year</p>
GOLD 3			
GOLD 2	<b>A</b>	<b>B</b>	
GOLD 1	<p><i>Theophylline</i></p>	<p><i>SABA and/or SAMA</i></p> <p><i>Theophylline</i></p>	
	<p>CAT &lt; 10 mMRC 0-1</p>		<p>CAT ≥ 10 mMRC ≥ 2</p>

# Manage Stable COPD: Pharmacologic Therapy

## OTHER POSSIBLE TREATMENTS

GOLD 4



GOLD 3



GOLD 2



GOLD 1



2 or more  
or  
≥ 1 leading to hospital admission

1 (not leading to hospital admission)

0

Exacerbations per year

CAT < 10  
mMRC 0-1

CAT ≥ 10  
mMRC ≥ 2

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Images are intended as an illustration of the class of drugs which can be used for each category

# COPD

