

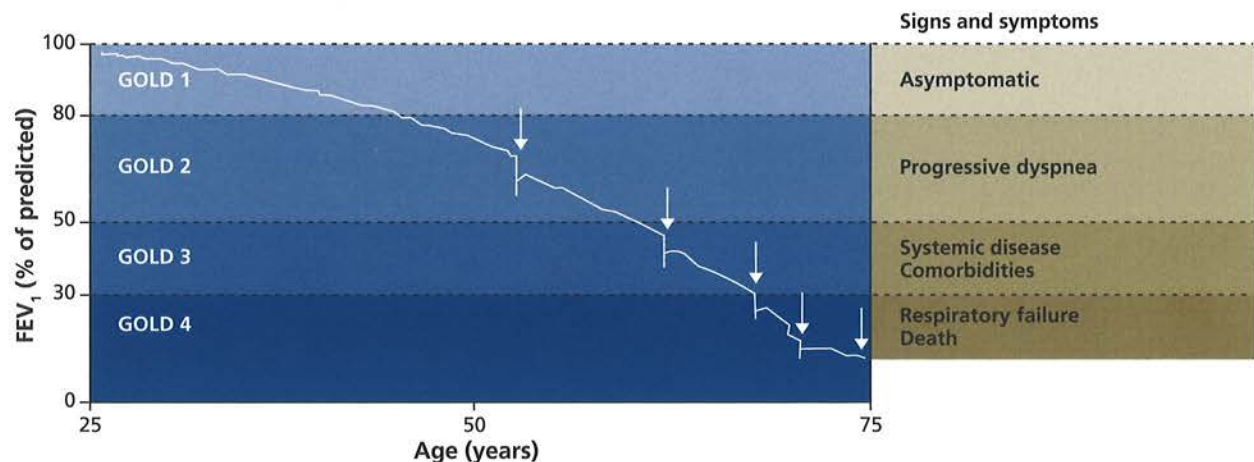
# Exacerbations May Negatively Impact COPD Patients

Exacerbations are a significant clinical component of COPD, and as the disease progresses, exacerbations may become more frequent<sup>1-3</sup>

Exacerbations are important events in the disease course of COPD for many reasons, including<sup>4</sup>:

- Negative effect on a patient's quality of life
- Physical, social, and emotional impairments
- Effects on symptoms and lung function
- Accelerated rate of decline in lung function
- Association with significant mortality, particularly in exacerbations that require hospitalizations

## The Role of Exacerbations in Accelerating Lung Function Decline<sup>5,7</sup>



Exacerbations, indicated by white arrows, punctuate and accelerate lung function decline.

\* Figure represents the physiology of exacerbations by severity of airflow limitation in a hypothetical habitual smoker with COPD. The impact of COPD exacerbations on FEV<sub>1</sub> decline remains uncertain.

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Even when an exacerbation resolves, the effects may linger,<sup>4</sup> and irreversible impairment may occur<sup>6,7</sup>

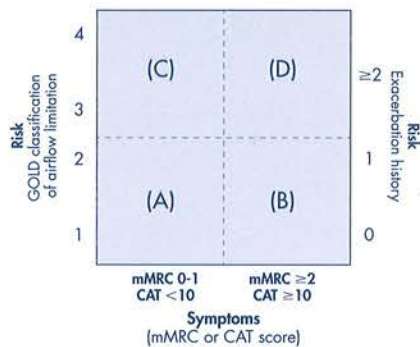
- Higher exacerbation rates are associated with greater decline of FEV<sub>1</sub> and worsening of health status<sup>4,8</sup>
- Patients with frequent exacerbations will continue to have exacerbations often<sup>3</sup>

Early detection and reducing the risk of exacerbations are vital to reducing the burden of COPD<sup>4</sup>

COPD=chronic obstructive pulmonary disease; FEV<sub>1</sub>=forced expiratory volume in the first second; GOLD=Global Initiative for Chronic Obstructive Lung Disease.

# GOLD Guidelines Recommend Maintenance Therapy to Reduce COPD Exacerbation Risk

## COPD Assessment Utilizes Reported Symptoms, Airflow Limitation, and Exacerbation History<sup>4</sup>



When assessing risk, choose the highest risk according to GOLD grade or exacerbation history.<sup>4</sup>

Patient Group	Characteristics	Spirometric Classification	Exacerbations per Year	mMRC	CAT
A	Low risk, less symptoms	GOLD 1-2	≤1	0-1	<10
B	Low risk, more symptoms	GOLD 1-2	≤1	≥2	≥10
C	High risk, less symptoms	GOLD 3-4	≥2	0-1	<10
D	High risk, more symptoms	GOLD 3-4	≥2	≥2	≥10

## Exacerbation risk can be reduced with appropriate pharmacotherapy<sup>3,4</sup>

### Initial Pharmacologic Management of COPD<sup>4</sup>

Patient Group	First Choice	Second Choice	Alternative Choice <sup>f</sup>
A Low risk, less symptoms	SA anticholinergic prn or SA β <sub>2</sub> -agonist prn	LA anticholinergic or LA β <sub>2</sub> -agonist or SA β <sub>2</sub> -agonist + SA anticholinergic	Theophylline
B Low risk, more symptoms	LA anticholinergic or LA β <sub>2</sub> -agonist	LA anticholinergic and LA β <sub>2</sub> -agonist	SA β <sub>2</sub> -agonist and/or SA anticholinergic Theophylline
C High risk, less symptoms	ICS + LA β <sub>2</sub> -agonist or LA anticholinergic	LA anticholinergic and LA β <sub>2</sub> -agonist	PDE-4 inhibitor SA β <sub>2</sub> -agonist and/or SA anticholinergic Theophylline
D High risk, more symptoms	ISC+ LA β <sub>2</sub> -agonist or LA anticholinergic	ICS and LA anticholinergic or ISC + LA β <sub>2</sub> -agonist and LA anticholinergic or ISC + LA β <sub>2</sub> -agonist and PDE-4 inhibitor or LA anticholinergic and LA β <sub>2</sub> -agonist or LA anticholinergic and PDE-4 inhibitor	Carbocysteine SA β <sub>2</sub> -agonist and/or SA anticholinergic Theophylline

\*Medications in each box are mentioned in alphabetical order and therefore not necessarily in order of preference; <sup>f</sup>Medications in this column can be used alone or in combination with other options in the first and second columns.

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CAT=COPD Assessment Test<sup>®</sup>; ICS=inhaled corticosteroid; LA=long-acting; mMRC=modified Medical Research Council; PDE-4=phosphodiesterase-4; prn=when necessary; SA=short-acting.

#### References

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