

# The ABCD of COPD... For Patients

## O ABCD da DPOC... Para os Doentes



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### ABSTRACT

Chronic obstructive pulmonary disease is a chronic condition that requires the engagement of our patients in lifestyle changes and pharmacological treatment. Although there are guidelines on many aspects of chronic obstructive pulmonary disease management, the challenge of engaging our patients persists. We propose a simple mnemonic that we hope will make it easier for patients and clinicians to achieve this goal together.

**Keywords:** Medication Adherence; Pulmonary Disease, Chronic Obstructive/therapy

### RESUMO

A doença pulmonar obstrutiva crónica é uma patologia crónica cujo tratamento depende do envolvimento dos doentes em mudanças de estilo de vida e tratamento farmacológico. Embora existam recomendações clínicas no tratamento da doença pulmonar obstrutiva crónica, o desafio em envolver os doentes persiste. Propomos uma mnemónica simples que esperamos contribuir para alcançar esse objetivo comum a médicos e doentes.

**Palavras-chave:** Adesão Terapêutica; Doença Pulmonar Obstrutiva Crónica

Chronic obstructive pulmonary disease (COPD) is a common, preventable and treatable disease characterized by persistent respiratory symptoms and airflow limitation.<sup>1</sup> Chronic airflow limitation is caused by a mixture of small airway disease and parenchymal destruction, with the relative contribution of which varying from person to person.<sup>1</sup> The diagnosis should be considered in patients with persistent chronic cough, dyspnoea or sputum production and exposure to risk factors for the disease. Spirometry is required to make the diagnosis; the presence of a post bronchodilator forced expiratory volume in the first second (FEV<sub>1</sub>) over forced vital capacity (FVC) ratio below 0.7 confirms the presence of persistent airflow limitation.<sup>2</sup>

Patients are assessed for symptoms, particularly dyspnoea, as well as exacerbations to assess disease progression and determine treatment strategy. As well as pharmacological treatment, management involves smoking cessation, pulmonary rehabilitation, influenza

and pneumococcal immunizations and control of comorbidities.<sup>3-6</sup> Bronchodilatation is essential for symptom control and exercise tolerance; hence patients are frequently prescribed inhalers depending on their combined disease assessment. Several acronyms describe the different pharmacological classes: long and short acting beta<sub>2</sub>-agonists (LABA and SABA, respectively), long and short acting muscarinic antagonists (LAMA and SAMA, respectively) and inhaled corticosteroids (ICS). Non-inhaled pharmacological treatment is reserved for selected patients. These involve drugs such as methylxanthines, mucolytics, phosphodiesterase 4 inhibitor roflumilast, and long-term macrolides. Doctors remain pressed for time and patients have different needs regarding the control of respiratory symptoms. We propose a simple, practical approach to everyday clinical management of COPD using an ABCD mnemonic. The summary of this mnemonic is described in Table 1.

Table 1 – The ABCD and E of COPD for patients

|          |                   |  |
|----------|-------------------|--|
| <b>A</b> | Air               | Assessment of respiratory symptoms and impact on patients' life. Dyspnoea is a sign of advanced disease  |
| <b>B</b> | Bronchodilatation | Bronchodilation is the core drug management of COPD. When choosing a bronchodilation never forget LAPA: Long Acting the Patient Adores   |
| <b>C</b> | Chronicity        | COPD is a chronic disease that requires compliance throughout the patients' life. Management of other chronic conditions that share the same pathophysiology is essential for optimization of the patient with COPD    |
| <b>D</b> | Device            | Inhaled drug therapy enables therapeutic doses in the target organ with minimal toxicity. The patient plays an active part in inhaled therapy and the only effective device is the one the patient will use            |
| <b>E</b> | Exacerbations     | Exacerbations have prognostic impact in COPD and every effort should be made to prevent this. These include lifestyle changes, smoking cessation, compliance with treatment and influenza and pneumococcal vaccination |

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**A is for air**

The assessment of respiratory symptoms such as cough, sputum production and, in more severe disease, dyspnoea, air hunger and exercise intolerance, is essential in monitoring the impact of COPD.<sup>7</sup> Quantification of dyspnoea, using tools such as the Modified Medical Research Council (mMRC) dyspnoea scale or COPD Assessment test (CAT), is useful in monitoring the disease. Importantly, we must always assess how symptoms affect the individual patient. The pathophysiology of alveoli and airway destruction will be shared by most patients but the way it impacts on our patients' lives will vary.

**B is for bronchodilatation**

The cornerstone of drug therapy in COPD is bronchodilatation.<sup>8,9</sup> Contrary to asthma, ICS are not indicated for all patients. Bronchodilation decreases air trapping and allows for better exercise tolerance which the patient desperately needs.<sup>10</sup>

There are current guidelines for choosing between LAMA, LABA+LAMA, so called dual bronchodilator therapy, LABA + ICS and LAMA + LABA + ICS, the latter called triple therapy. This is based on the combined assessment of exacerbations and dyspnoea as proposed by GOLD. However, the clinician will still face a myriad of choices between devices, drugs, combined or single therapy, once or twice daily regimens. Yet, when choosing bronchodilatation, one of the most important factors remains the individual patient. What their peak inspiratory flow and hand-breath coordination is, what time of the day they are more symptomatic, which symptoms curb their activity and which device they prefer. Are they more troubled by dyspnoea or bronchial secretions? Are side effects such as LABA associated tachycardia or LAMA associated dry mouth troublesome? Basing ourselves on patients' preferences, we propose never to forget a new acronym, LAPA, Long Acting the Patient Adores. The combination of bronchodilator and device that is best suited to the patient and that will better guarantee the patients' compliance. Investing in trying out the best regimen, changing strategy when patients remain symptomatic or proposing other treatment options will ultimately pay off.

**C is for chronicity**

COPD is a chronic disease that requires patients to engage with lifelong treatment. This requires compliance together with lifestyle changes and control of comorbidities. Patients need to be an active part of the team that cares for them, particularly because lifestyle changes will impact more than any prescribed drug on their long-term prognosis. Smoking cessation is the single most important measure

patients can do to improve their health.<sup>11</sup> Most smokers want to quit but struggle for several reasons. Addressing patients' concerns on smoking cessation as well as screening for depressive symptoms is important, particularly since depression is common among COPD patients.<sup>12,13</sup>

Compliance with medication and lifestyle changes should be actively promoted. Immunizations, influenza and pneumococcal disease, adequate nutrition and control of comorbidities are paramount. Shared risk factors (age, smoking, inflammation, and physical inactivity) predispose to other chronic conditions such as cardiovascular disease, which is highly prevalent among the COPD population.

**D is for device**

Inhaled therapy allows for greater drug availability in the lung with minimal systemic bioavailability and toxicity. This is particularly important in polymedicated patients who are at high risk of drug interactions.

Inhalation devices are cumbersome to use when compared to the simple act of taking a tablet. Patients need to be regularly taught and checked on inhalation technique.<sup>14-16</sup> Inhaled therapy requires the patient to be an active participant in device use. The only bronchodilator that will remain efficient is the one the patient uses. Changing device is sometimes a mistake in the well patient, particularly if they are compliant with their current one.

**E is for exacerbations**

Exacerbations decrease lung function, increase hospital admissions and increase susceptibility to other events.<sup>17</sup> Risk factors for exacerbations include the number of exacerbation in the previous year, a clinical pattern of chronic bronchitis, extensive emphysema and thicker airways.<sup>18,19</sup> In our experience, a non-compliant patient is also at increased risk of exacerbation.

Patients and carers can be instructed on how to recognize a severe exacerbation and signs that should prompt hospital referral and immediate management.

Post exacerbation patients who have not been evaluated for respiratory rehabilitation or who have previously refused might now be motivated to engage. Rehabilitation reduces the number of exacerbations and improves quality of life in COPD patients.<sup>20</sup>

**CONCLUSION**

COPD is a chronic disease with a variable clinical course that requires the engagement and empowerment of patients to achieve compliance with management. We hope the ABCD and E of COPD for patients will help clinicians to accomplish this goal.

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