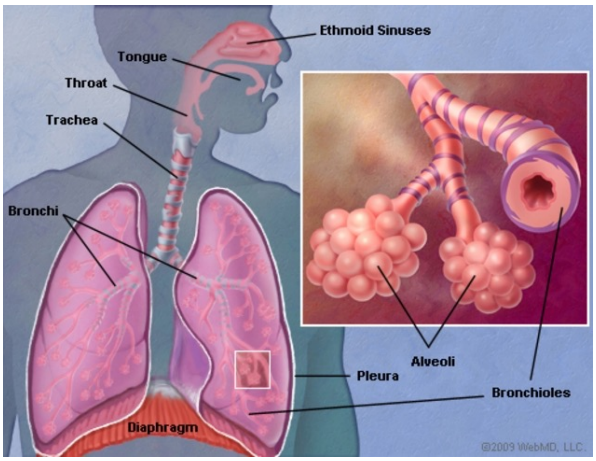
COPD

Management of Exacerbations in General Practice



BELMATT
HEALTHCARE TRAINING

1

EXACERBATIONS OF COPD

COPD exacerbation is defined as an acute worsening of respiratory symptoms that result in additional therapy

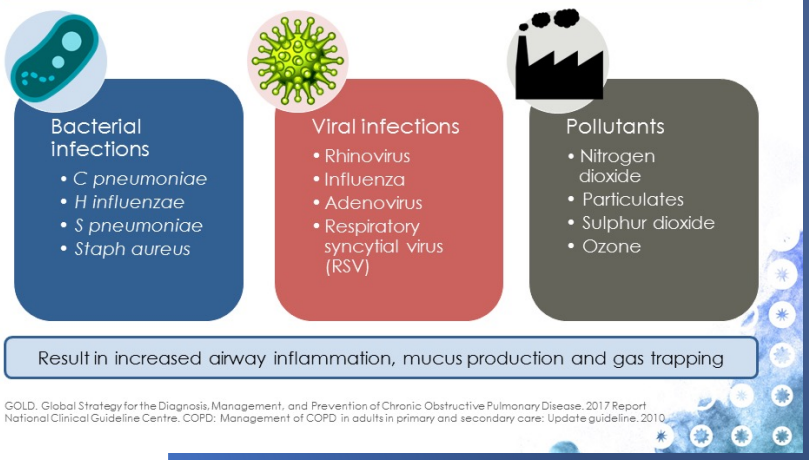
They are classified as:

- **Mild** - Treated with short acting bronchodilators only
- **Moderate** - Treated with SABDs plus antibiotics and/or oral corticosteroids)
- **Severe** - Patient may require hospitalization or visits to the emergency room and may also be associated with acute respiratory failure.

2

Causes of exacerbations

Respiratory tract infections are the most common cause of an exacerbation



Result in increased airway inflammation, mucus production and gas trapping

GOLD. Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease. 2017 Report
National Clinical Guideline Centre. COPD: Management of COPD in adults in primary and secondary care: Update guideline. 2010

3

MANAGEMENT OF EXACERBATIONS

Overall key points

- Exacerbation of COPD can be precipitated by several factors. The most common is respiratory chest infections.
- The goal of treatment of COPD exacerbation is to minimize the negative impact of current exacerbation and to prevent subsequent events
- Short acting inhaled beta2 –agonist, with or without short-acting anticholinergic, are recommended as the initial bronchodilators to treat an acute exacerbation.
- Maintenance therapy with long-acting bronchodilators should be initiated as soon as possible before hospital discharge.
- Systemic corticosteroids can improve lung function, oxygenation and shorten recovery time and hospitalization duration. Duration of therapy should not be more than 5-7 days.

4

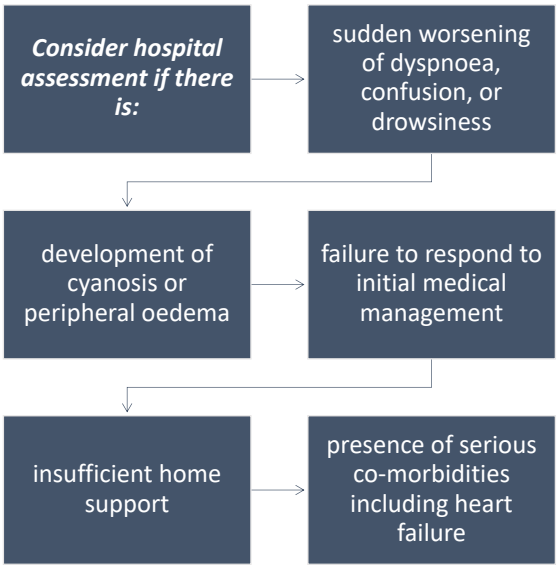
MANAGEMENT OF EXACERBATIONS

Overall key points

- Antibiotics, when indicated, can shorten recovery time, reduce the risk of early relapse, treatment failure, and hospitalization duration. Duration of therapy should be 5-7 days.
- Methylxanthines are not recommended due to increase side effects profiles.
- Non-invasive mechanical ventilation should be the first made ventilation used in copd patients with acute respiratory failure who have no absolute contraindication because it improves gas exchange, reduces work of breathing and need for intubation, decreases hospitalization duration and improves survival
- Following an exacerbation appropriate measures for exacerbation prevention should be followed.

5

MANAGEMENT OF EXACERBATIONS



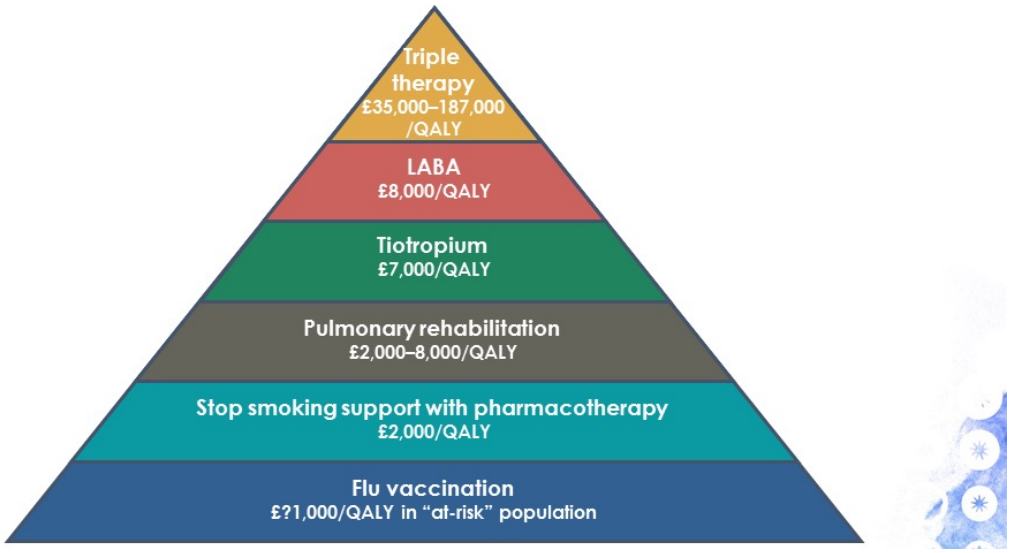
6

NICE exacerbations management: Factors to consider when deciding where to manage patient

Factor	Favours treatment at home	Favours treatment in hospital
Able to cope at home	Yes	No
Breathlessness	Mild	Severe
General condition	Good	Poor – deteriorating
Level of activity	Good	Poor – confined to bed
Cyanosis	No	Yes
Worsening peripheral oedema	No	Yes
Level of consciousness	Normal	Impaired
Already receiving LTOT	No	Yes
Social circumstances	Good	Living alone/not coping
Acute confusion	No	Yes
Rapid rate of onset	No	Yes
Significant comorbidity	No	Yes
SaO_2 <90%	No	Yes
Changes on the chest radiograph	No	Present
Arterial pH level	≥7.35	<7.35
Arterial PaO_2	≥7 kPa	<7 kPa

LTOT: long-term oxygen therapy; SaO_2: oxygen saturation of arterial blood; PaO_2: partial pressure of oxygen in arterial blood; NICE: National Institute for Health and Care Excellence
National Clinical Guideline Centre. COPD: Management of COPD in adults in primary and secondary care: Update guideline. 2010.

7



8

MANAGEMENT OF STABLE COPD

General Measure:

includes use of pharmacological and non-pharmacological interventions

Non-Pharmalogical interventions

- Encourage smoking cessation
- Provide influenza and pneumococcal immunization — this will reduce lower respiratory infections
- Encourage participation in pulmonary rehabilitation programmes for patients with high-symptom burden and risk of exacerbations — this will improve symptoms, quality of life, and activity level
- Consider group or individual education sessions to build the patient's knowledge and skills
- Provide nutritional supplementation if the patient is malnourished

9

MANAGEMENT OF STABLE COPD

Pharmacological therapy for stable COPD:

- Provide education and training in inhaler device technique

Bronchodilators

- They are medications that increase FEV1 and/or change other spirometric variables. They are most often given on a regular basis to prevent or reduce symptoms

Beta-agonists

- The relax airway smooth muscle by stimulating beta2 – adrenergic receptors

Antimuscarinic drugs

- They are drugs that block the bronchoconstrictor effects of acetylcholine on M3 muscarinic receptors

10

MANAGEMENT CONTD.

Bronchodilators

Methylxanthines (Theophylline)

- Controversy remains about the exact effect of xanthine derivatives

Combination bronchodilator therapy

- Combining bronchodilators with different mechanisms and durations of action may increase the degree of bronchodilation with a lower risk of side effects compared to increasing the dose of a single bronchodilator

11

MANAGEMENT CONTD.

Corticosteroids

- If the patient develops further exacerbations on a LABA/LAMA combination:
- add an ICS

OR

- switch to a LABA/ICS combination

- If the patient still has exacerbations on LABA/LAMA/ICS therapy, consider:
- adding roflumilast if the patient has chronic bronchitis and their FEV1 is <50% predicted
- adding a macrolide such as azithromycin (especially if the patient has a history of smoking)
- stopping treatment with ICS
- using oral glucocorticoids (NB use only for the management of acute exacerbations)

12

MANAGEMENT CONTD.

Antibiotics

- Use oral antibiotics if the patient has exacerbations and there are signs of bacterial infection

Mucolytics

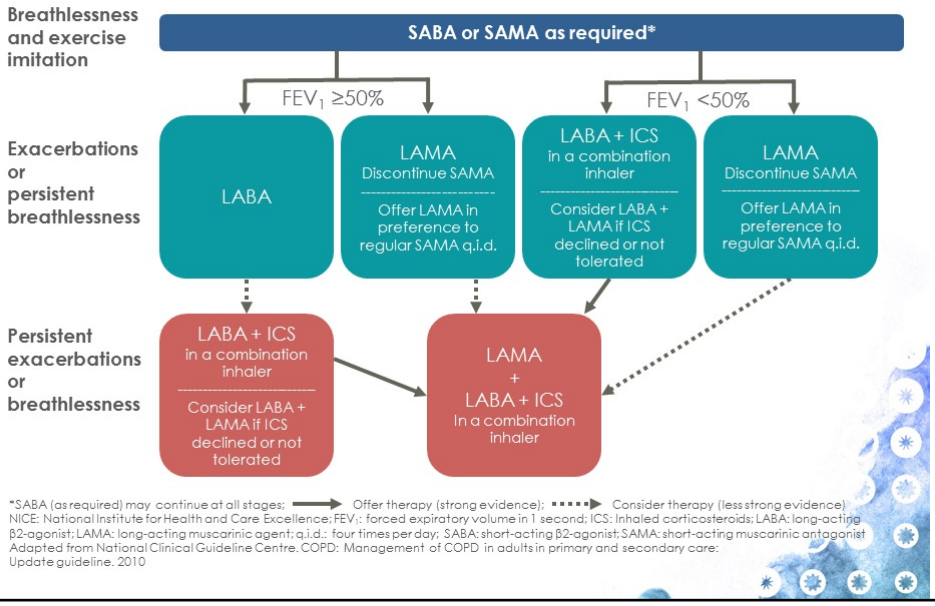
- Consider using a mucolytic if the patient is not receiving an ICS

Long-term oxygen therapy

- Do not prescribe routinely
- Consider individual patient factors when assessing the need for supplemental oxygen

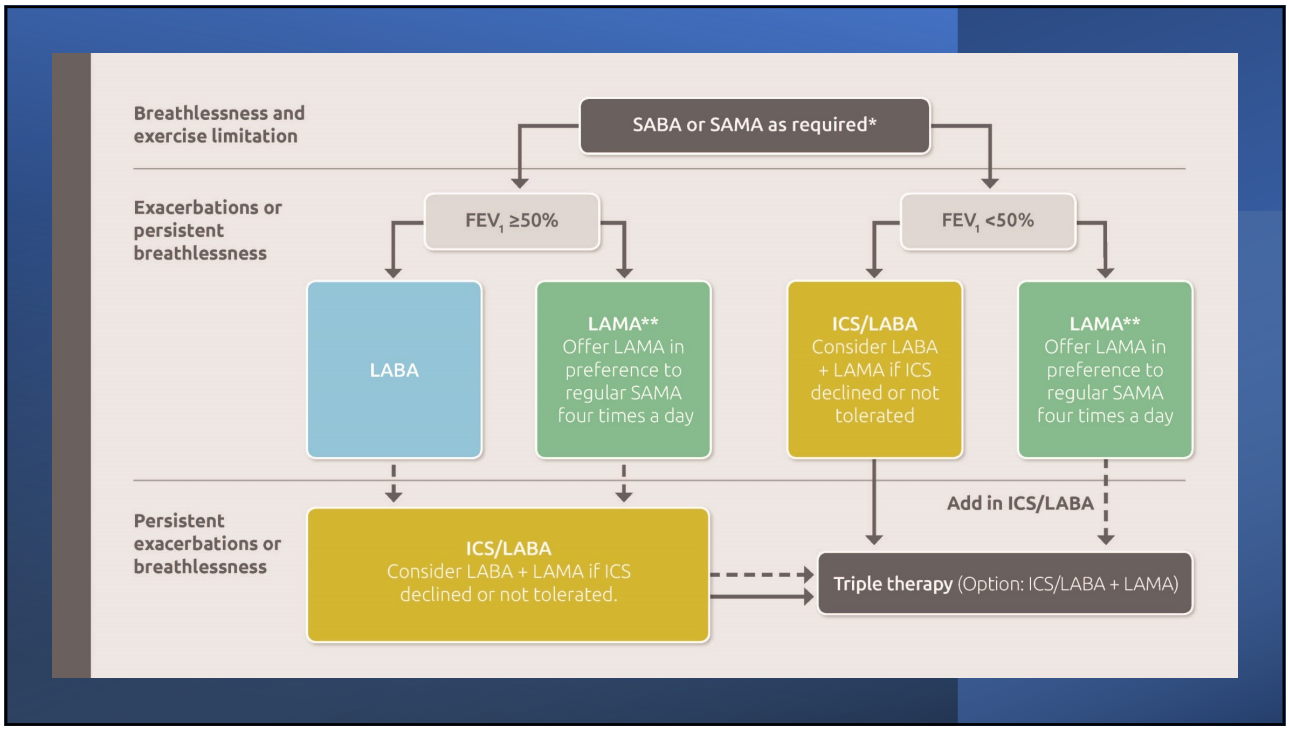
13

NICE algorithm 2a: inhaled therapies



*SABA (as required) may continue at all stages; → Offer therapy (strong evidence); ⇢ Consider therapy (less strong evidence)
NICE: National Institute for Health and Care Excellence; FEV_1: forced expiratory volume in 1 second; ICS: Inhaled corticosteroids; LABA: long-acting β2-agonist; LAMA: long-acting muscarinic agent; q.i.d.: four times per day; SABA: short-acting β2-agonist; SAMA: short-acting muscarinic antagonist
Adapted from National Clinical Guideline Centre. COPD: Management of COPD in adults in primary and secondary care: Update guideline. 2010

14



15

Inhaled combination therapy

Recommendations:

1. If persistent exacerbations or breathlessness and FEV_1 <50% predicted, consider either ICS/LABA combination inhaler, or LAMA
2. In people with stable COPD and an FEV_1 ≥50% who remain breathless or have exacerbations despite maintenance therapy with a LABA:
   - Consider ICS/LABA in a combination inhaler
   - Consider LAMA in addition to LABA where ICS is declined or not tolerated
3. Offer LAMA in addition to ICS/LABA to people with COPD who remain breathless or have exacerbations despite taking ICS/LABA, irrespective of their FEV_1

ICS/LABA

LAMA

COPD: chronic obstructive pulmonary disease; FEV_1: forced expiratory volume in 1 second; ICS: Inhaled corticosteroids; LABA: long-acting β2-agonist; LAMA: long-acting muscarinic agent; SABA: short-acting β2-agonist; SAMA: short-acting muscarinic antagonist
National Clinical Guideline Centre. COPD: Management of COPD in adults in primary and secondary care: Update guideline. 2010
NICE. Chronic obstructive pulmonary disease in over 16s: diagnosis and management. 2010

16

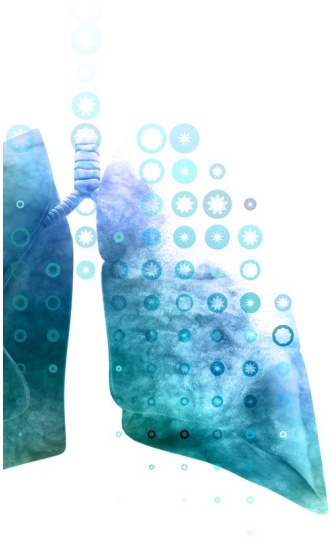
SELF MANAGEMENT PLAN

17

REFERENCES

- BRITISH THORACIC SOCIETY GUIDELINES 2016
- GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE NOV 2016
- COPDFOUNDATION.ORG
- Goldcopd.org/gold 2019
- Golbal-strategy-diagnosis-management-prevention-copd

18



Questions?

19