

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a general term that covers a variety of previously used labels which are now recognised as different aspects of the same underlying problem. The term COPD encompasses:

- chronic bronchitis
- emphysema
- chronic obstructive airways disease (COAD)
- chronic obstructive lung disease (COLD)
- chronic airflow limitation disease (CALD)
- some cases of chronic asthma.

COPD is a chronic progressive disorder characterised by airway obstruction that does not change markedly over several months. Whilst the impairment is considered permanent it may be partially reversible (at least transiently) by bronchodilator and/or other therapies.

Patients with COPD usually present to the ambulance service with an acute exacerbation of the underlying illness. COPD is a concomitant/secondary illness in many incidents with other chief complaints.

Some patients with severe COPD may carry information (e.g. a card) to assist in their care. This can be used to guide therapy.

ASSESSMENT

Primary Survey

Assess **ABCD's**

HISTORY

See dyspnoea guideline

Specific presenting features of an acute exacerbation of COPD include:

- worsening of a previously stable condition
- increased wheeze
- increased dyspnoea, particularly on expiration
- increased sputum volume
- chest tightness
- fluid retention.

Specifically assess:

- respiratory rate and effort, and any noises (e.g. “bubbling” or wheeze) associated with breathing indicating respiratory distress
- whether the event is an exacerbation of COPD or something new e.g. pulmonary oedema, acute asthma
- the status of current treatment, including domiciliary oxygen therapy.

Differential diagnoses include pneumonia, pneumothorax, left ventricular failure, pulmonary embolism, lung cancer, upper airway obstruction and allergic reaction/anaphylaxis.

Establish whether any **TIME CRITICAL** features are present. These may include:

- extreme breathing difficulty (by reference to patient's usual condition)
- cyanosis (although peripheral cyanosis may be ‘normal’ in some patients)
- exhaustion
- hypoxia (oxygen saturation) <85%, unresponsive to oxygen (O₂) – COPD patients will normally have a lower than normal oxygen saturation (SpO₂).

MANAGEMENT¹⁻⁷

Always check to determine if the patient has a personalised treatment plan available.

If any **TIME CRITICAL** features are present, provide immediate care for airway and breathing problems then transfer to the nearest suitable receiving hospital. Provide a **hospital alert message/information call**.

If confident of diagnosis of an exacerbation of COPD, follow information on patient's information card, if available.

Follow **medical emergencies guideline**, start correcting:

- **airway** – maintain patency
- **breathing** – nebulise with **salbutamol** (*refer to salbutamol drug protocol for dosages and information*). If inadequate response after five minutes, a further nebulised salbutamol combined with **ipratropium bromide** (*refer to ipratropium bromide drug protocol for dosages and information*) should be considered. Ipratropium is given once only; salbutamol may be repeated at regular intervals unless the side effects of the drug become significant.

- **circulation** – cannulate a suitable vein if transferring to hospital
- position for comfort and ease of respiration; often sitting forwards helps.

Specifically monitor ECG and SpO₂.

If, after nebulisation, there are no features of life-threatening or severe COPD (e.g. low respiratory rate), controlled oxygen therapy (**refer to oxygen protocol**) should be maintained to achieve an oxygen saturation of 90-92%.

Be prepared for respiratory arrest.

ADDITIONAL INFORMATION

A small proportion of COPD sufferers are chronically hypoxic and when given oxygen may develop increasing drowsiness and loss of respiratory drive. If this occurs, reduce oxygen concentration and support ventilation if required.

Pulse oximetry, whilst important in COPD patients, will not indicate carbon dioxide (CO₂) levels which are assessed by capnography or more commonly, blood gas analysis in hospital.

If the primary illness in a patient with COPD requires high concentration oxygen (such as anterior myocardial infarction, major trauma etc) then this should **NOT BE WITHHELD**. The patient should be continually monitored closely for changes in respiratory rate and depth and the inspired concentration adjusted accordingly. In the short time that a patient is in ambulance care hypoxia presents a much greater risk than hypercapnia in most cases.

Whilst blood gas levels are important to continuing long term care of the patient, a lack of oxygen will prove fatal far more rapidly in the acute setting than changes in CO₂ levels which alter more slowly.

Use of systemic corticosteroids as advocated in asthma is of no proven benefit in acute exacerbations of COPD. A course of oral steroids and/or antibiotics may be appropriate based on the judgement of the assessing hospital Doctor or General Practitioner.

Key Points – Chronic Obstructive Pulmonary Disease

- Early respiratory assessment (including oxygen saturation) is vital.
- If in doubt, provide oxygen therapy, titrating en-route, aiming for oxygen saturation of 90-92%.
- Provide nebulisation with salbutamol and assess response.

REFERENCES

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METHODOLOGY

Refer to methodology section.