

## CLINICAL SKILLS: EXPLAINING COPD

*Chronic Obstructive Pulmonary Disease (COPD) is an obstructive airway disease similar to asthma but with different pathogenesis and a typically older patient population. Below we outline the key information that needs to be discussed in any OSCE station about COPD. It is also important to discuss inhaler technique and medication side effects, as explained in our [notes on asthma](#).*

### What is COPD?

- A chronic disease of the lungs
- There is usually a combination of:
  - **'Chronic bronchitis'** - chronic inflammation of the bronchi (usually defined as a productive cough on most days for 3 months a year over 2 successive years)
  - **'Emphysema'** - enlargement of air spaces in the terminal bronchioles leading to inefficient gas exchange ratios and poor air outflow
- Overall, COPD usually causes an 'obstructive' picture to respiratory function
- It is a lifelong illness and is usually progressive, with worsening symptoms over time
- This is a relatively common disorder, affecting 16% of the population >40

### What causes COPD?

- There are multiple risk factors for COPD. These include;
  - Smoking – this is easily the most common cause
  - Age >35
  - Family history
  - Pollution
  - For some, a genetic abnormality can cause it (specifically - alpha-1 anti-trypsin deficiency)

### What are the symptoms?

- Symptoms can vary amongst different people
- Symptoms on a day to day basis include;
  - Shortness of breath – worse on exercise
  - Chronic cough
  - Phlegm production
  - Wheeze
- A person can also get 'exacerbations' of COPD, which may be triggered by chest infections. This leads to a worsening of symptoms and possibly a fever. If there is a bacterial component to the exacerbation, the patient may find that their sputum changes colour (e.g. to rust brown). A person may require antibiotics so should see their General Practitioner if their symptoms worsen

### How do you treat COPD?

- COPD is a long term illness, so you may feel you need additional support and education about it. There are many charities and support groups available for you to talk to - e.g. the British Lung Foundation, ([www.blf.org.uk](http://www.blf.org.uk))
- It is important to know that COPD cannot be cured – but its progression can be slowed or halted with good management
- Lifestyle changes

- Stop smoking – this is an **essential** part of the management of COPD. This can greatly reduce the risk of progression
- Exercise – regular exercise can improve the ability to tolerate symptoms and can improve the lung function test results
- Lose weight - obesity will also contribute to breathlessness in these patients
- Immunisations
  - The annual influenza immunisation is vital, as is the pneumococcal vaccination
- Physiotherapy
  - Can help to reduce phlegm in lungs
  - Some GPs, hospitals or trusts offer 'pulmonary rehabilitation' - this is a structured course lasting a number of weeks where patients are given exercises, support and information about how best to manage their symptoms. They are usually led by physiotherapists
- Medications
  - First line therapy - inhalers
    - Short Acting Beta-2 Agonists (SABA) (e.g. salbutamol) OR Short Acting Muscarinic Antagonists (SAMA) (e.g. ipratropium bromide) can be used for episodes of breathlessness
  - If Forced Expiratory Volume in 1 second (FEV1) >50%, treatment for persistent symptoms includes:
    - Long Acting Beta-2 Agonists (LABA)
    - OR Long Acting Muscarinic Antagonists (LAMA). If LAMA is used, then the SAMA should be stopped (SABA can be continued).
    - Then add add inhaled steroids if still symptomatic
  - if FEV1 <50%, treatment for persistent symptoms includes:
    - LABA + inhaled steroid
    - OR LAMA alone (stop the SAMA, but SABA can be continued)
  - If the patient is still symptomatic, then a combination of LAMA, LABA and inhaled steroids can be used
  - Then consider use of oral theophylline
- Mucolytic therapy if chronic productive cough (this aids with symptoms, but not prognosis)
- Home oxygen therapy if they suffer from chronic hypoxia – at least 15 hours a day
- Nebulisers at home
- Treatment of acute exacerbations – if you notice your symptoms getting worse, come to GP immediately. Treatment for acute exacerbations include:
  - Oral steroids steroid – prednisolone, 30 mg, 7-14 days
  - Antibiotic if infection suspected
  - Increase frequency of bronchodilator
  - Oxygen (this needs to be carefully titrated to ensure that the patient doesn't start retaining carbon dioxide) - should only be done in hospital settings
  - Consider intravenous theophylline
  - Non-invasive ventilation techniques - ie. BiPAP
  - Invasive ventilation - e.g. intubation in the intensive care unit

#### To conclude the consultation:

- Emphasis that it is important to have regular follow up with their GP to provide support and to titrate medication
- Ask if the patient has any further questions
- Provide with leaflets and links to relevant support groups