key points

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An estimated 1.2 million people are living with chronic obstructive pulmonary disease (COPD) making it the second most common lung condition after asthma. Around 4.5% of people aged over 40 years have been diagnosed with COPD. It is predominantly a condition of older age and is most commonly diagnosed in the seventh to eighth decades.

COPD should be suspected in an older adult (at least 35 years old but typically more than 45 years old) who presents with symptoms such as breathlessness, wheeze, cough and sputum production and has one or more risk factors, typically current, or a past history of, cigarette smoking. A diagnosis should also be suspected when an individual with a risk factor develops a lower respiratory tract infection requiring treatment. COPD is far more common in smokers of heroin and crack cocaine, in whom it occurs at a younger age.

Diagnosis is made using post-bronchodilator spirometry in patients with relevant clinical features. An FEV_1/FVC ratio below 0.7 confirms the presence of persistent airflow limitation. However, the 2019 GOLD COPD guideline cautions against diagnosing COPD on the basis of a single post-bronchodilator FEV_1/FVC measurement of between 0.6 and 0.7 because of biological variation. A further problem is that use of a fixed FEV_1/FVC ratio leads to overdiagnosis of COPD in older individuals and underdiagnosis in younger people so missing the chance for early intervention. Hence an increasing number of respiratory laboratories are using the lower limit of normal to report airflow obstruction, but this is more complex to interpret.

A recent NICE guideline recommends that antibiotics should only be used for COPD exacerbations where there is clear clinical evidence of an infection, in particular a change in sputum colour but also an increase in volume. Amoxicillin, doxycycline and clarithromycin are first- and second-choice antibiotics and should be prescribed for five days. Antibiotics such as co-amoxiclav, levofloxacin and co-trimoxazole are reserved for specific organisms and circumstances. It is particularly important that any clinician who prescribes and advises COPD patients about the use of emergency (rescue) packs should emphasise that antibiotics are not required at the time of every exacerbation and use should be based on symptoms.

Referral for specialist review is appropriate where there is diagnostic uncertainty. This can include situations where there is a disconnect between physiology (spirometry) and symptoms, where multiple conditions causing similar symptoms may overlap and where regular sputum production suggests a diagnosis of bronchiectasis. Referral is appropriate where certain treatments are being considered such as lung volume reduction, prescription of oxygen therapy and transplantation. Individuals who have, or are suspected of having, alpha-1-antitrypsin deficiency should also be referred.