key points

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Asthma affects 5.4 million people in the UK, around 1 in 12 of the population. Between 5 and 10% of asthma (depending on the definition used) is categorised as difficult asthma, a term which generally refers to patients who continue to experience symptoms and frequent exacerbations despite the prescription of high-dose asthma therapy.

Difficult asthma is an indication for specialist review by an appropriate respiratory physician, but close liaison between primary, secondary and tertiary care is critical and it is therefore important that primary care healthcare professionals should be aware of the principles of management.

One of the most important questions to ask is whether the individual with difficult asthma is taking their treatment. Identifying this, however, is not easy. GPs could assess prescription uptake, looking for low use of preventers and excess use of short-acting bronchodilators. Newer means of assessing adherence have been developed. Inhaler devices that can monitor completion and timing of actuations have been produced. Meters that measure fractional exhaled nitric oxide (FeNO) are available.

A recent UK study found that 12 out of 100 patients referred for difficult asthma did not have reversible airflow obstruction or a history suggestive of asthma. Diagnoses included COPD, cystic fibrosis, cardiomyopathy, respiratory muscle dysfunction and severe anxiety with vocal cord dysfunction.

Oral corticosteroids will provide control in the vast majority, but the well known side effects demand that other forms of treatment should be considered. Omalizumab is a monoclonal antibody against native IgE. In patients with confirmed IgE-dependent allergic asthma, uncontrolled despite optimal pharmacological treatment and with IgE levels 30-700 IU/ml, a trial of omalizumab is appropriate. In patients who require daily oral steroids, methotrexate can be used as a steroid-sparing agent. It should only be used in specialist centres because of safety concerns and the need for monitoring.

Bronchial thermoplasty in severe asthma is used to reduce the small airways smooth muscle mass, thereby decreasing the airways' ability to constrict. The procedure is carried out under sedation or general anaesthetic and involves inserting a catheter into the bronchial tree and administering radiofrequency energy to the airway walls.

There is debate about the role of FeNO in routine monitoring. A NICE diagnostic appraisal suggested that it should have a role, but a recent international guideline did not recommend it. The authors believe that it is useful particularly in those who are symptomatic at review.