

#### Dr Peter Saul

GP Wrexham and Associate GP Dean for North Wales, UK

#### Pulmonary rehabilitation is a multifaceted programme

of exercise and education that aims to improve breathlessness, exercise capacity, and quality of life, and aid self-management. Standard training involves aerobic endurance training primarily focusing on the lower limbs but also incorporating some upper limb muscle exercise. Many programmes also incorporate resistance (strength) training to improve lower limb, especially quadriceps, muscle strength. Supervised exercise is an ideal setting to assess the efficiency of an individual's breathing pattern and explain how this may be improved.

## Pulmonary rehabilitation has broad applicability to

individuals with a wide range of cardiorespiratory conditions, exclusions are modest and primarily focus on patients with severe locomotor deficits. Patients with chronic respiratory failure, those on long-term or ambulatory oxygen and patients with anxiety and depression can all benefit from rehabilitation. It is one of the most beneficial and cost-effective treatments for COPD and should be considered a fundamental component of disease management rather than an option.

### A standard assessment visit will include two walking

tests, completion of health status questionnaires, often an assessment of anxiety and depression and of lower limb muscle strength if resistance training is to be used. Most rehabilitation programmes deliver twice weekly supervised sessions over a period of at least six weeks. The initial assessment provides an opportunity to explain the nature of the programme, reassure the patient and address any outstanding questions and concerns. Education is a vital component of any rehabilitation programme. It is important to emphasise the benefits of keeping active and maintaining a healthy lifestyle. Comorbidity, smoking, and anxiety and depression can be addressed where appropriate. Pulmonary rehabilitation is more effective when inhaler therapy is optimised; both inhaler technique and the prescription.

#### Meta-analyses of clinical trials show that pulmonary

rehabilitation reduces breathlessness and fatigue, improves exercise capacity, activity, quality of life, and autonomy. The benefits are large and highly clinically significant. There is strong evidence that patients with COPD who complete pulmonary rehabilitation have an overall reduction in subsequent exacerbation and hospitalisation rates. Patients hospitalised with acute exacerbations of COPD should be referred for pulmonary rehabilitation at discharge and enrolled within one month of leaving hospital.

# The biggest challenge to improve pulmonary

rehabilitation outcomes is to improve uptake and completion. The 2015 national audit in England and Wales found that 69% of patients attended the initial assessment, 59% enrolled but only 42% of those referred completed the programme.