why pulmonary rehabilitation?

The goal of rehabilitation is to restore a patient to the fullest medical, mental, emotional, social, and vocational potential possible. Pulmonary rehabilitation is increasingly recognized as an important component of the comprehensive management of patients with severe symptomatic lung disease. Pulmonary rehabilitation has gradually become the ‘gold standard’ for patients with severe lung disease, the most common of which is chronic obstructive pulmonary disease (COPD).

Most frequently, pulmonary rehabilitation becomes necessary as respiratory function deteriorates as a result of disease. With therapeutic strategies such as lung volume reduction surgery and lung transplantation now available to patients formerly deemed untreatable, pulmonary rehabilitation is considered essential as an adjunct to surgery. This is done both to optimise the condition of patients prior to surgery as well as to ensure long term maintenance of their health status post surgery.

The major objectives is to control, alleviate and, if possible, reverse the symptoms and pathophysiologic processes leading to respiratory impairment. An equally important aim is to improve the quality of the patient’s life and to attempt to prolong it. This, in turn, leads to reduced healthcare costs and burden of care.
COPD has been shown as a leading cause of death, illness and disability worldwide:
- The World Health Organization (WHO) estimates that COPD as a single cause of death shares 4th and 5th places with HIV/AIDS (after coronary heart disease, cerebrovascular disease and acute respiratory infection).
- The WHO estimates that in 2000, 2.74 million people died of COPD worldwide.
- In 1990, a study by the World Bank and WHO ranked COPD 12th as a burden of disease; by 2020, it is estimated that COPD will be ranked 5th.
- Mortality due to COPD has increased 22% in the last decade.
- COPD is the 4th leading cause of death in the USA, and the economic burden of COPD in the USA in 2007 was $42.6 billion in health care costs and lost productivity.
- In Africa, the incidence of chronic respiratory disease (particularly asthma and COPD) has increased in the last decade (WHO), and the rise in morbidity and mortality from COPD will be most dramatic in Asian and African countries over the next two decades, mostly due to progressive increase in the prevalence of smoking.

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Case management
Case management is carried out according to the Life Rehabilitation standard process, which includes a personal pre-admission patient assessment to establish the potential benefits of rehabilitation and to optimise appropriate admissions with regards to timing and patient condition. The funder will receive a 10 day authorisation request for the programme. Admission and discharge reports will be sent to the funder and referring specialists. When ready to refer a patient, the referring specialist should contact the closest unit. The rehabilitation admissions consultant will personally visit the patient to assess him or her and discuss admission and any queries with the referring specialist, the patient and his or her family.

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Criteria for admitting patients
The criteria for admitting patients for pulmonary rehabilitation include the following:
- Acute exacerbations in patients with COPD.
- Pre and post major surgery in patients with COPD.
- Multiple readmissions, especially ICU admissions.
- Early to moderate disease stage of respiratory failure (stages 1 to 4).
- Patients must be over 12 years.
- Medically stabilising with cardiorespiratory stability.
- Ability and will to participate actively in the programme.

The structured inpatient programme runs for a period of two weeks (with weekend leave in between). The holistic and interdisciplinary programme includes both individual and group sessions. Appropriate referrals are made after discharge and resources are provided. A follow-up assessment will be arranged to ensure maintenance of improved health status.

The programme is inclusive of the following services:
- Specialised nursing care.
- Initial assessment by all team members (including rehabilitation doctor).
- Daily visits by rehabilitation doctor in order to address any acute condition or co-morbidities.
- Individual and group interventions according to patient needs.

The team members are responsible for the following interventions:
- Physiotherapy: mobility and airway management.
- Occupational therapy: function and energy conservation, activities of daily living.
- Psychologist/Social worker: education, support, family orientation.
- Dietician: nutritional education and optimisation of nutritional status.
- Speech therapy: speech and breathing control.
- Specialist nursing care.
- Strong focus on patient and family education and support.
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The focus in intervention is based on the following:
- Activity tolerance and energy conservation to ensure optimal function.
- Breathing and oxygen optimisation.
- Stress management, given that stress wastes energy that is already compromised.
- Good nutrition, for optimal health and energy.
- Cardiac optimisation.
- Stabilisation of the medication regimen.
- Patient and family education to ensure that questions are answered and health aspects are well understood.
- Lifestyle modification to enhance quality of life.

Interventions will be individually targeted around the results of a variety of standardised and internationally recognised assessments, which cover functioning of respiration, mobility, mood, cognition and nutritional status. The programme includes interaction with other patients experiencing similar challenges to foster peer support, and ensures that the patient is discharged a more informed and better conditioned individual with greater coping skills.

Outcomes
Outcomes of pulmonary rehabilitation in patients with advanced COPD show the following:
- An increase in exercise endurance.
- An increase in exercise work capacity.
- Changes in biochemical muscle enzymes.
- A significant reduction of dyspnoea.
- Improved quality of life and productivity.
- Reduced health related costs.

Tariff
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