

# Good example of essay on pulmonary rehabilitation

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## **Introduction**

Oxygen therapy is used in many patients with chronic and acute illnesses. It is the supply of oxygen to the body and is used as a common medical intervention in different hospital settings. Oxygen forms the basis of cellular metabolism. Oxygen is used as a life support for patients with severe chronic obstructive pulmonary disease.

Oxygen therapy and long term oxygen therapy (LTOT) are used for patients with  $\text{PaO}_2 < 60$  mmHg. Oxygen therapy is primarily used for patients with pharmacological treatment. There are guidelines for oxygen therapy.

Worldwide doctors recommend 18 hours of oxygen supply to patients with COPD. In rare cases, the amount of supply is kept at a constant of 24 hours. Complete benefit of oxygen therapy is seen in patients receiving correct hypoxemia. During rest time, the patient's arterial blood gas is checked for new interventions. During an exercise regime,  $\text{SaO}_2$  levels need to be checked. An adequate amount of  $\text{SaO}_2$  is necessary for the patient during a routine exercise. While the patient is sleeping,  $\text{SaO}_2$  and  $\text{PaCO}_2$  levels are measured. During night,  $\text{SaO}_2$  levels need to be decreased. In some cases, hypoventilation may occur. This can be prevented by checking arterial blood gas levels for  $\text{PaCO}_2$  immediately after awakening. (Yves Lacasse, Frédéric Sériès, and François Maltais, 2007)

Different issues in patients with COPD have to be dealt for proper oxygen therapy. Patients with moderate hypoxemia are to be taken into consideration. Patients with high saturation levels during sleep and exercise are to be analyzed for efficacy studies. Dosage of oxygen in critical patients need to be thoroughly checked to avoid fatal situations. Guidelines of LTOT

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need to be followed for patients with oxygen therapy. Compliance of oxygen therapy need to be followed. Oxygen therapy in complex COPD patients (diagnosed with other diseases) should be given priority treatment.

The paper discusses about the importance of Home oxygen therapy in patients with chronic obstructive pulmonary disorder and nurse roles in patient care and education.

## **Importance of Oxygen therapy in chronic obstructive pulmonary disorder (COPD)**

Oxygen therapy and long-term oxygen therapy (LTOT) have been proven to be beneficial for COPD patients. Studies have revealed that patients on LTOT had decreased pulmonary hypertension. The number of red cell mass have been reported to decrease at a considerable level. Patients on oxygen therapy tend to have an increased exercise capacity compared to other interventions.

Many studies on oxygen therapy and its application to COPD patients have revealed that LTOT was the only method that increase and improved survival of COPD patients. Oxygen therapy plays a vital role in patients with chronic respiratory failure as well. Oxygen therapy has been implemented in most countries around the world. More emphasis was given on oxygen therapy for COPD patients since it improved their chances of survival to a higher degree. Other interventions in the treatment and assessment of COPD patients failed to overcome the results of oxygen therapy. Moreover long-term oxygen therapy is recommended for COPD patients. An 18 hour oxygen supply to COPD patients is recommended by doctors worldwide.

Apart from survival, there were many other health benefits of Oxygen

therapy. A decrease in cardiac arrhythmias was observed in many clinical trials. The main role of oxygen therapy in patients with COPD was the improvement of neuropsychiatric function. Improvement in quality of life in COPD patients is possible through LTOT. Pulmonary arterial hypertension can be stabilized in COPD patients by use of oxygen therapy. The importance of oxygen therapy is known for its reduction in exacerbation rates in COPD patients. Home oxygen therapy reduces the chances of patients to be hospitalized. The importance of home oxygen therapy is due to an improved quality of life and reduced visits to hospitals. (Ma Rosa Güell Rous, 2008)

### **Role of Nurse in Advance COPD Oxygen Therapy Care**

A registered nurse will have many duties in patient care and management. The overall task increases in cases of patients with chronic obstructive disorder. The nurse has to check in for Nutritional and Psychological issues with the patients. A well trained nurse will make sure that different aspects of COPD patient management is followed. The nurse will help and give moral support to patients with COPD. The nurse would be continuously assessing the patient's daily oxygen and nutritional need. Apart from Psychological and nutritional care, there are 3 important aspects of the nurse in the health care management of COPD patients with oxygen therapy.

The nurse would be responsible in teaching the patient with the proper use of oxygen. Knowledge about the possibilities of open flames and explosion by the use of such mechanisms is also given to the patient. The patient would teach the patient about the daily recommended amount of oxygen to be given. The nurse would also teach patients about oxygen prescription and

daily nutritional interventions.

The second main concept is proper equipment care. Doctors and Nurses are sole responsible for the maintenance of equipment in and around the hospital premises. However, teaching patients will enhance the maintenance of equipment. It is necessary for the nurse to teach a patient with LTOT about the maintenance of equipment. For home oxygen therapy, oxygen cylinders are used. Patient should be informed about possible leaks and storage of oxygen cylinders. Regulator monitoring the flow of oxygen should be checked regularly. A registered nurse would teach a patient about the different regulators and pipes involved in oxygen therapy.

Lastly, the nurse should educate the patient about a back-up oxygen supply in case of equipment or power failure. This is the most crucial instruction provided by the nurse.

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